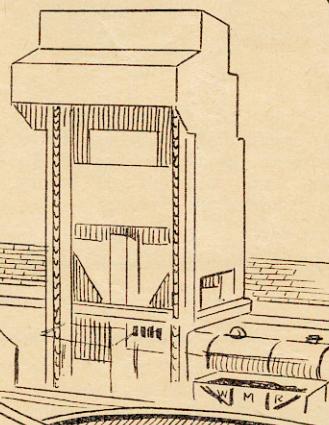


# Hobbies

WEEKLY

MODEL  
00 GAUGE  
COALING  
STAGE



AND  
LARGE  
FREE  
FRETTWORK  
DESIGN.

A PIANO  
DULCIMER



CHEMISTRY



November 13th. 1937

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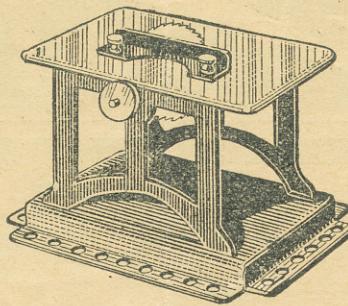
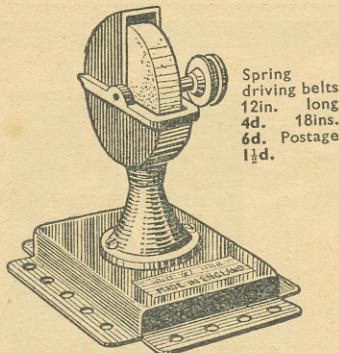
Vol. 85. No. 2195

THE FRETTWORKER'S AND  
HOME CRAFTSMAN'S JOURNAL

# WORKING MODELS for your Steam Engine

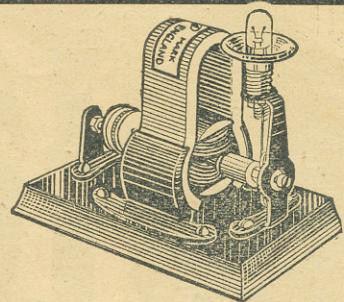
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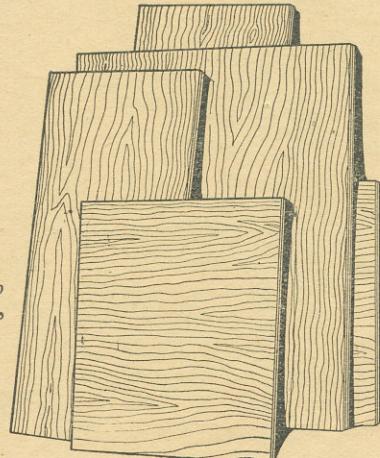
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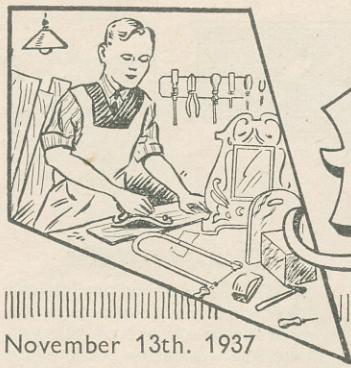
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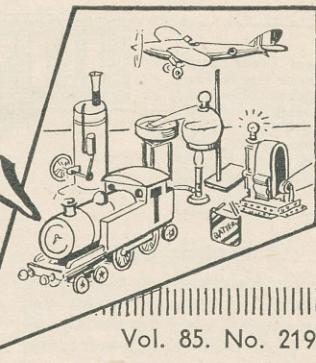
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# Hobbies

## WEEKLY



November 13th. 1937

Vol. 85. No. 2195

THE "Parts of a Body" Competition a little time ago created much interest (Oct. 2nd issue) but only three readers solved all the "pieces." They are accordingly winners and prizes have been sent to each. You may wish to know the answers, because a competition like this is just the thing to create fun and interest at a Christmas party. The parts of a body shown were—drums, feet, nails, palms, arms, pupils, chest, crown and skull. The actual winners were M. J. Crowther, Mirfield, Yorkshire, Cecil Stead, Ventnor Street, Manchester, Daryl Hews, Christchurch Lane, Cork.

Did you know that some people catch rabbits by stupifying them with a powerful electric light beam? Candidly I did not until recently, and then it was only because a reader interested in our electrical notes wrote for some particulars. Having seen the light and the torch, he wanted to make his own as he understood it was simply a matter of "knocking three torches into one." Actually, as our electrical expert explained, the bulb is overrun—it has too many cells and has a short life and a bright one. Five unit cells in series are utilized, with a 5-volt bulb, and a large and clean reflector. The cells should be fitted into one torch or holder in order to cut out any need for wiring. Now you know how to catch rabbits in the dark—but no poaching, please!

A SMALL Exhibition of Fretwork Models was staged recently at the Rochester Club House, by the Members of the Observatory and District Club, South Africa, for the express purpose of a visit from Col. Hornibrook and Mr. M. J. Adams. Fine models of a hall rack and smokers cabinet were shown by G. Offen. These two models deserve special mention as they were a fine effort for a young member and

excellently made. A Britannia Pipe Rack made by E. Moreland was a beautiful piece of work, also wall bracket made by R. Clipstone. J. Howard exhibited two models, a Letter Rack and Perpetual Calendar both of which were well constructed. V. Wellsted made a novelty Dinner Gong which was most outstanding and being at the same time artistic. Of the articles constructed by the Juniors, a Calendar made by A. Clipstone was very good, B. Dolman made two models, a Pipe Rack and Wall Bracket, E. Howard fretted a Wall Bracket. The work displayed was of good workmanship and finish; pipe racks and wall brackets appear to have captured the young mind. All particulars concerning the Club can be obtained at Head Quarters, 45, Station Road, Observatory, Cape Province. Readers living in the area should certainly apply so they may be members of this progressive Hobbies Club.

Do you think you would like to be an Editor? Such a job certainly keeps your brain active and keen, when you have a great circle of friendly readers, as I have, who are always shooting all manner of questions. My post bag is a daily delight—as well as sometimes a trial. It contains many bouquets, and very few brick-bats thank goodness. That is, of course, merely figuratively speaking, because I think George would soon begin to grumble at having to haul sacks of bricks up the office stairs. And I certainly cannot see him daintily presenting bouquets to me or anybody else!

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**Next Week's Design—Novel Cigarette Box**

Correspondence should be addressed to: The Editor, *Hobbies Weekly*, Dereham, Norfolk, and a stamp enclosed with the Reply Coupon from Cover iii if a reply is required. Particulars of Subscription rates, Publishing, Advertising, etc., are on cover iii.

A NY reader in and around Boreham Wood, Herts., wishing to join a Hobbies Club in that district should write to, or see W. E. Jackson of Hathersage, Sherley Road, about it, because he is anxious to meet other Hobbyites with that idea. Will readers forming Clubs in other districts also let me know please.

The Editor

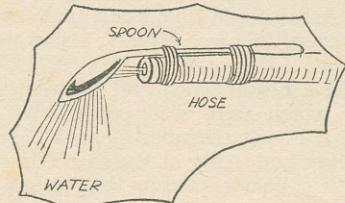
Send your own simple tips to The Editor, Hobbies Weekly, Dereham, Norfolk. Keep them short and add rough pencil sketches if possible.

## HINTS AND TIPS



### A Simple Spray

If you have not got a spraying nozzle in your hose, an old bent spoon lashed to the tip of the hose will be found very



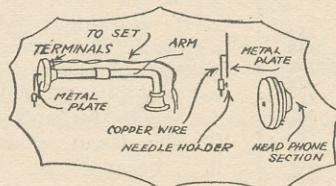
effective. The water hits the spoon and sprays out, and if the spoon is bent in different directions the force and size of the spray will be altered.—(R. H. Allen).

### Cycling Hint

FOR cyclists who use carbide lamps, a good idea is to fix a piece of wire through the ventilation holes of your lamp so that it passes through the flame. When a jolt of the cycle extinguishes the flame, the red-hot wire will relight it.—(J. M. Bryson).

### Novel Pickup

HERE is a useful tip of how to make a pickup entirely from a headphone set. If carefully made to the instructions it will be found successful. First of all take a section off a pair of headphones, unscrew the front and take off the thin metal plate. Through the centre of this plate bore a small hole into which a strong piece of copper wire is soldered. Now bend the wire



at right angles at a length of 1½ ins. Then at the end solder the needle holder, after which an arm may be fixed as seen in the sketch. Lastly join the wires from the terminals to the wireless set.—(J. A. Gresty).

For original Tips published the sender will receive two dozen Hobbies Fret saw Blades. We cannot acknowledge or print all tips sent in.

### Coin Cleaning

I FIND this method of cleaning old coins and medals more efficient and quicker than using vinegar. Rub them well with a damp cloth on which is sprinkled some cleaning powder such as Vim or Goso. This quickly makes them shiny and clean.—(K. Nash).

### Film Windows

DO not throw away clear blank negatives from films which have failed to come out, as they form a very effective and realistic substitute for glass windows in model buildings, railway stations, etc.—(M. H. Cadman).

### Galleon Sails

A CHEAP way of making Galleon sails is to make a wire frame as shown in the sketch, on to this stitch the sail,



and dip in scotch glue when set take off frame and stitch on spars.—(C. Steer).

### Hard Cake Glue

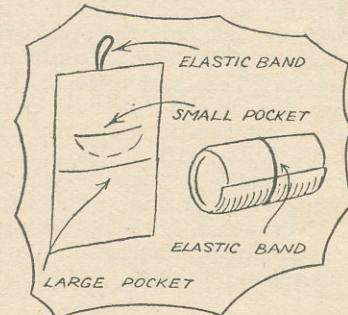
WHEN glue is hard to break, place a cotton-reel on the face of the glue and place the latter on a hard surface. Give the cotton-reel a few sharp taps with the hammer and the glue will break in pieces.—(G. Harris).

### Wristlet Money Box

IF you have a wristlet watch which is broken and not mendable, do not throw it away. Instead take out all the inside of the watch and you are left with the bare case, which is very handy for keeping on your wrist with threepenny bits, sixpennies, or small coins.—(W. W. Wilson).

### First-Aid Wallet

A HANDY first-aid wallet can be made from a tobacco pouch which contains a pair of rollers to make the cigarettes. There are two pockets in this, a small and



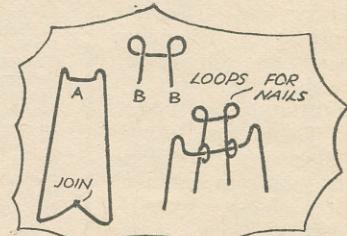
a large. The rollers are cut away and you have two pockets, one for small pins and tweezers and the large one for rolls of bandages and lint, etc. This can be rolled up and the elastic band put over it.—(S. Woodrow).

### Use for Duplicate Stamps

A GOOD way to use up your duplicates, is to design glass jars with them. Stick the stamps by the face to the inside of the glass in a design. To decorate plates, china or tin, stick the stamps in your own design on to the plate. After the glue is dry, apply a thin coat of light varnish to protect them.—(C. Harper).

### Simple Struts

HERE is a simple tip which may be useful to readers who can easily make struts out of wire. Obtain two pieces of



wire and bend as shown. Then twist B round A to form two loops to make the hinge. This makes a neat strut.—(J. Marklew).

# A PIANO DULCIMER

CAN you play the piano? If not, you will enjoy making and learning to play tunes by "ear" (in a literal sense, of course!) on this novel little instrument. Having a compass of about 2-octaves (17 notes, ten white and seven black), you can thus play any melody upon it—and without being "stuck" for flats and sharps as is usually the case with other toy models which, as you know, have only ten white or "natural" keys.

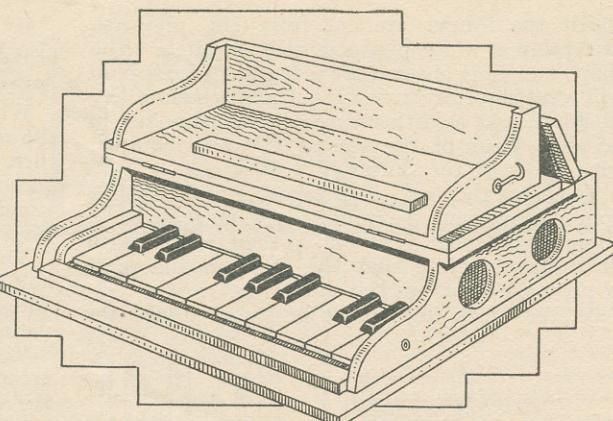
Moreover, you can use both hands and introduce a bit of harmony in your playing. It is easier to do with waltz-songs than fox-trots, and if you have a slight knowledge of the rudiments of music, you will be able to pick up some beautiful chords from professional music sheets published in various newspapers or purchase a 1/- book of popular dance tunes from a local music dealer.

If, too, you are a would-be composer (without a piano), this miniature one will help you greatly in writing down the correct notes and preparing the manuscript generally for the publisher.

## Preparing the Notes

Though small, there is a fair amount of work in the construction of this model, but that should not deter you from making it, because there is really nothing complex or expensive about it. For the notes, you need two 6d. dulcimer outfits (obtainable at the 6d. stores), each consisting of ten steel "natural" notes and two tiny beaters.

Keep one range intact. To make sharps and flats, seven of the other lot (see Fig. 1) must be "tuned up" with a hacksaw and file. To do so, remove all the bars from the framing, arranging



a file, removing a little at a time and always testing.

When all seven notes have been properly tuned, you should be able to play "There's A Blue Ridge Around My Heart, Virginia" mostly upon them, commencing from bar C. Any that appear to sound "between the cracks" as it were, can then be filed and tested accordingly. It should be remembered that the more you remove from the bars the higher the pitch.

## Fitting to Frame

For the job in hand, you will need to arrange them on the frame detailed at Fig. 1, same being cut from  $\frac{1}{8}$  in. plywood. When cut out, nail or screw the ten natural bars along the lower part as shown, keeping bar C in  $\frac{1}{8}$  in. from the end, this also applying to the last bar, E. Incidentally, the space between them is about an  $\frac{1}{8}$  in., not more or less. The top or sharp notes are affixed directly above these spaces.

Having this done, remove the soft cord from the old frames and tack to the new frame (under the bars) along the rows of nails or screws holding the bars. Keep it *between* these and not on the outside (see sectional elevation at Fig. 3).

## The Casing

At this juncture, make the casing. The sides (A) and front board (B) are detailed at Fig. 5, same—like all the rest of the casing—being cut from  $\frac{1}{4}$  in. plywood or fretwood. When the sides are cut out, select the front board (B) and glue its tenons to the mortises of the sides.

Between the sides at the back nail a further piece  $9\frac{1}{4}$  ins. long by  $2\frac{1}{4}$  ins. wide. The bottom piece (see list) is screwed neatly to these parts with  $\frac{1}{4}$  in. by 4 flathead iron screws. A  $\frac{1}{4}$  in. margin must show at the back and along the sides, with a  $\frac{3}{8}$  in. margin at the front only.

Now, with pencil or gauge, mark lines around the inside of the frame space to  $\frac{3}{8}$  in. deep. Pieces of stripwood ( $\frac{3}{8}$  in. thick by  $\frac{1}{2}$  in. wide) are glued securely around the inside, that is, against the sides, back, and front board (see Fig. 3) to the depth of the lines.

At Fig. 4 will be found details of the keys and keyboard. The latter is cut from  $\frac{1}{8}$  in. wood,

## MATERIAL LIST

- 1 piece birch plywood  $9\frac{1}{4}$  ins. by  $5\frac{1}{4}$  ins. by  $\frac{1}{8}$  in. thick.
- 1 piece birch plywood  $9\frac{1}{4}$  ins. by  $7\frac{1}{4}$  ins. by  $\frac{1}{8}$  in. thick.
- 1 piece alder plywood  $9\frac{1}{4}$  ins. by  $5\frac{1}{4}$  ins. by  $\frac{1}{8}$  in. thick.
- 2 pieces fretwood  $9\frac{1}{4}$  ins. by  $2\frac{1}{4}$  ins. by  $\frac{1}{8}$  in. thick.
- 2 pieces fretwood  $10\frac{1}{4}$  ins. by  $9\frac{1}{4}$  ins. by  $\frac{1}{8}$  in. thick.
- 1 piece fretwood  $9\frac{1}{4}$  ins. by  $1\frac{1}{4}$  ins. by  $\frac{1}{8}$  in. thick.
- 1 piece fretwood  $8\frac{1}{4}$  ins. by  $\frac{3}{4}$  in. by  $\frac{1}{8}$  in. thick.
- 4 ornamental hinges (No. 5379).
- 2 hooks and hook-eyes. (Not supplied).
- 4 rubber (spiked) feet.
- 2 pieces stripwood  $15$  ins. by  $\frac{1}{8}$  in. by  $\frac{3}{8}$  in. thick.

only those (in the alphabetical order as shown) on the framing again.

The intact bars and the other are then placed side by side, i.e., the former being below the latter as in Fig. 1. Working from the left, select bar C and remove about  $1\frac{1}{16}$  in. from one end with the hacksaw. Continue in this manner with the other six bars, then test by playing a tune requiring flats or sharps, that is, with the beater. Should some be a trifle low in pitch, rectify with

whilst the former are cut from  $\frac{1}{8}$  in. plywood, preferably a white plywood such as birch. The shape and sizes of same are given at Fig. 2. You will want three of (from left to right) the first key as shown and a further three of the same key in reverse. Four of the second key are required, with seven of the third.

To ensure they will all fit together to allow freedom in movement, we would advise marking them all out in a bunch as at Fig. 4, then cut out with the fretsaw. Note that the grain of the piece of plywood must run the short way.

As the black keys must be raised above the

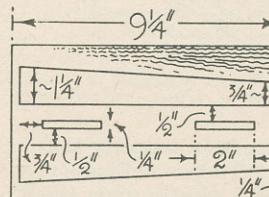


Fig. 1—Details of frame with notes in position

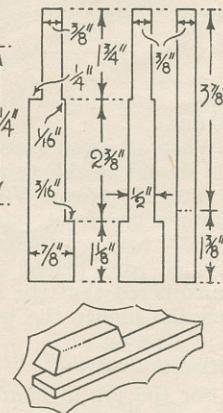


Fig. 2—Key details

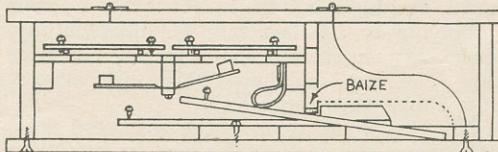


Fig. 3—Section showing parts in place

white, small blocks of wood (1½ ins. by ½ in. by ¼ in.) are shaped and then adhered to the plain strips of plywood as indicated by the inset detail at Fig. 2.

## **Painting the Keys**

The blocks are—after the glue has thoroughly set—stained jet black with Indian ink and polished to a high gloss with Hobbies Lightning (Ebony) Polish or just varnished.

The white keys are best coated with a clear paper varnish or glaze—or if preferred, you could enamel them pure white. Only the front and tops need be treated; on no account touch the sides, as this would cause the keys to stick and interfere with the easy grace essential to smooth playing.

By the way, the black keys (tops only) could also be enamelled black.

## Assembly of Keys

When paint or varnish has dried, glasspaper the *sides* of the keys to remove excess substance, then hinge them all to the keyboard. This is accomplished with strips of thin card or holland (coarse unbleached linen with a glazed surface, viz., window blind material).

The strips are about 2ins. long by  $\frac{3}{8}$ in. wide, one half (1in.) of same being glued neatly (with a strong adhesive such as "Certofoix" tube glue) over the various spaces on the keyboard as seen at Fig. 6.

To attach the keys, reverse the white keys and arrange in a neat order upon the table. Now glue the over-lap of the holland of these particular keys well, then reverse the key-board and set gently and neatly on top so that the front ends of the keys are within the front rail of the key-board  $\frac{1}{8}$  in. as at Fig. 4. Press the tabs firmly on the keys with the fingers, making sure they will be well united.

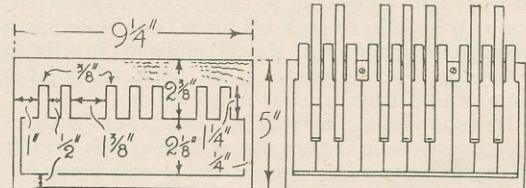


Fig. 4—Shape of keyboard and arrangement of keys

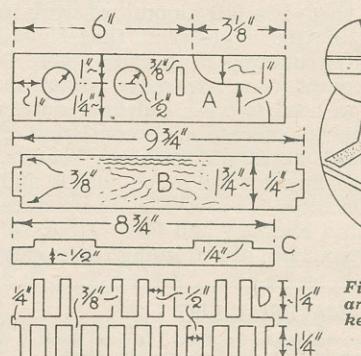


Fig. 6—How the keys are hinged to the keyboard

Fig. 5—Details of various parts

Before allowing to dry, turn the work right about and see that the keys are in true alignment with the board in every way. When dry, glue the tabs of the black keys, set same in position so that there is easy movement, then press the holland against them. Instead of treating the lot all at once, you could work at one at a time with these keys.

(To be continued)

## **Free Design of “Santa Maria” Shortly**

## AMMONIA AND CARBON DIOXIDE

# HOME CHEMISTRY



ALTHOUGH carbon dioxide is present in the atmosphere only in very small quantities, even so there is more of it than there is of ammonia.

In our last article we dealt with ozone, a gas which possesses an odour that most people regard as pleasant, or at least invigorating. Ammonia, on the other hand, is equally distinctive in a different manner, for its objectionable, choking odour is too well known to need description.

It is a very easy gas to produce in your laboratory, it being only necessary to heat a mixture of sal ammoniac and slaked lime. A somewhat unique method of producing ammonia is to heat a small piece of cheese with slaked lime, flour and glue in a test tube, when the gas is given off. This may seem strange, but in days gone by, ammonia was made by heating animal offal such as horns and hoofs, and was then called spirit of hartshorn.

### Uses of Ammonia

Everyone knows that ammonia is the basis of smelling salts, but please do not try and go one better by using pure ammonia on your friends for this purpose. It is poisonous, so you would fail dismally in your well-meant efforts to do them good.

We have dealt with ammonia to some extent in these pages before, but we have not described one of its most wonderful uses. Nine people out of every ten express their complete ignorance of the manner in which a refrigerator works. How on earth can heat produce cold, they ask, when considering the installation of a gas or electric refrigerator in their home. It surprises everyone to learn that the secret of the whole thing is ammonia. The principle is, of course, to absorb all heat from the interior of the refrigerator and to make sure that no external heat can enter.

### How a Refrigerator Works

You will observe, on examining a refrigerator, that there is a system of pipes at the rear, into which liquid ammonia is inserted under pressure. The cold ammonia passes through the pipes and absorbs heat as it goes, for it changes into its gaseous form and most substances absorb heat when this change takes place. In many types of refrigerator heat is applied either by gas or electricity in order to effect this change.

The ammonia gas, which is now at low pressure, passes back to a compressor and then on to a condenser, where it is once more changed into a liquid. This process goes on interminably, the

first charge of ammonia doing its work for years.

Now you see why it is not so much the elaborate mechanical system which is responsible for refrigeration as that simple substance, ammonia, and this is just another example of the importance of chemical compounds to our daily life.

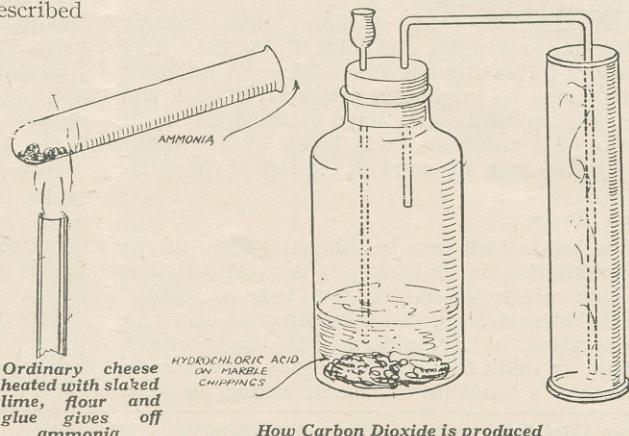
### Carbon Dioxide

This is an interesting gas which is met with very frequently in chemical experiments. In order to produce it in your laboratory, place some marble chippings in a wide-necked bottle fitted with a cork, thistle funnel and delivery tube, and pour dilute hydrochloric acid on the marble.

As shown in the sketch, your delivery tube should lead into a gas jar, which quickly becomes filled with the gas you are seeking. In order to ascertain when the jar is full, hold a lighted splinter at the mouth of the jar, and as the gas will not support combustion the flame will be extinguished as soon as the jar is full to overflowing.

Carbon dioxide is colourless and almost tasteless, and is possessed of a faint odour. It exerts a poisonous effect upon the system, which is why the air of badly-ventilated dance halls is so bad for you.

Natural vitality is lowered, and although you may consider yourself fagged out after three or



four hours of dancing, the fact that you have inhaled far too much carbon dioxide has a good deal to do with this and you feel heavy and headachy as a result. How invigorating it is to get out into the open air again!

However, this gas has its good uses as well as its bad. Every time you open a bottle of "pop" or any fizzy mineral water you come into contact with carbon dioxide, which is, in fact, the "fizz."

(Continued at foot of next page)

# COLLECTING FOSSILS AND MINERALS

If you want to derive complete enjoyment from the collecting of fossils and minerals, you ought to possess some knowledge of field geology. Fortunately you need very little baggage for a day's outing. In point of fact, all you need is a hammer, a cold chisel, a bag for specimens, and soft paper in which to wrap your specimens, although a pocket lens and a compass are useful adjuncts.

Your hammer should be of softish steel, with a flat face, and a chisel-like tongue (not a claw)—its object being to detach a piece of rock or break up a pebble. The chisel is handy for tackling the rough rock, by driving it in and thus separating a lump from the mass. Some fossils call for careful packing, hence the soft paper.

## Use of the Lens

The lens will help you to see the nature of the specimen whose composition often cannot be made out with the naked eye, and if you miss your direction, the compass may be useful to you.

The character of the rocks will indicate the kind of fossil or mineral likely to be met with. Limestone will yield different results from the Chalk, and both from the Coal Measures.

Never neglect anything that looks even like a promising field. An old quarry for instance might be productive of good specimens, and even the wayside heap of flint "road-metal" might be worth overhauling.

The cliffs by the seashore often furnish interesting specimens, and a bit of limestone may be chock-full of crinoids or sea-lilies. A fragment of fern may be excellently preserved in coal, and even the sandstone may have petrified the ripple marks of a coast that was laved by the waves long before man appeared on the face of the earth.

## Beach Stones

The beach itself may be diligently searched, by no means in vain, but here, as in most instances of mineral finds—as distinct from "fossils," which however are in a sense, minerals also—the co-operation of a lapidary will be necessary. Should he think that the stone may be cut, so as to present a beautiful surface in section, he must

## Home Chemistry—(Continued from previous page)

It is not too much of an exaggeration to say that all mineral waters are simply soda-water coloured and flavoured to suit the description on the label.

The presence of carbon dioxide in drinking water renders it palatable, but if you take a sip of distilled water you will find it flat and brackish, the carbon dioxide having been expelled.

One of the most important uses of carbon dioxide in these days is in fire-fighting. Those patent extinguishers which hang along the walls of

be entrusted with the work, as he will have the necessary tools. Always bear in mind that the rock formation of a district will supply a certain clue to the kind of fossils or minerals likely to be discovered.

If, for instance, you are spending a holiday within reach of the Cairngorms you may be lucky enough to find some fine specimens of the yellow or brown quartz, or rock crystal which takes its name from the mountains where it occurs. Strictly speaking, an accurate note should be taken of the nature of the precise spot where any fossil or mineral is found.

Fossils from the Carboniferous system are liable to be somewhat easily damaged, and should be kept perfectly dry. Whatever finds may reward your industry, your Museum will probably owe a great deal to your friends.

Tourists in Bavaria may bring you examples of the lithographic stone from Solenhofen containing the fossilised remains of the reptile-bird, one of the most interesting fossils in the world, but not by any means too rare to hope for.

A fly, or other object preserved in amber—*itself the fossilised resin of an ancient pine—thought "neither rich nor rare"*—always appeals to those who are puzzled to know how the milk gets into the coco-nut, or the apples into the dumpling!

## Quarry Finds

To spend a holiday in a quarry district without making friends with the quarrymen, is to miss a fine opportunity. Many of these men, although apparently illiterate in other matters, are experts in geology, and who knows but that one of them might be able to present you with a "thunderbolt," as they call the belemnites?

Every specimen exhibited should have a card beside it containing the correct title of the object, neatly written, along with the date when it was acquired, the name of the donor (if you did not find it yourself), and as nearly as possible where it was found.

Should it have been bought, the price paid for it may be noted on the back of the card. Small exhibits likely to be lost should be kept in a nest of cotton wool in a jeweller's cardboard box.

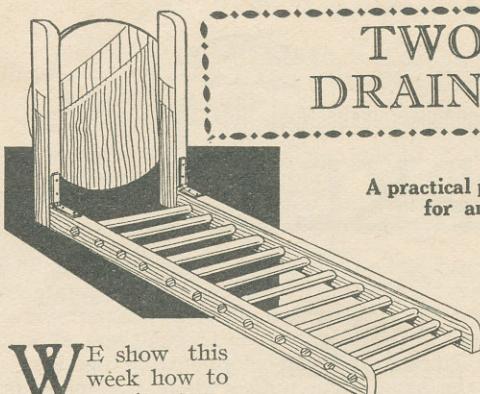
theatres and public buildings usually contain substances which, on being released, produce a heavy blanket of which carbon dioxide is a prime factor.

This settles around the burning material and successfully acts as a guard against the oxygen of the air, without which the flames cannot continue.

Such appliances are generally described as "foam" methods of fire-fighting, so once again we get a case of a simple chemical compound being the key to a very vital commercial system.

## TWO FOLDING DRAINING STANDS

A practical piece of carpentry  
for any housewife



**W**E show this week how to make two

very useful forms of plate racks which may be stood on the kitchen sink draining board or on the table. After use, and upon wiping off the surplus water, these racks can be folded up and hung away tidily.

The ordinary hardwood kitchen drawing board is quite good in its way, but when a large number of plates and saucers are in use, an additional rack such as one of these shown here would be of great advantage and save much room.

Our sketch shows the two racks open, with a smaller sketch showing how the end folds down flat. We shall first describe the rack on the left of the sketch. This consists of a baseboard 18ins. or 2 feet long of  $3/16$ in. or  $\frac{1}{4}$ in. plywood to which is fixed two strips of hardwood such as beech, 1in. by  $\frac{1}{2}$ in. in sections, having notches cut in them for holding the plates or saucers in a more or less upright position.

### The Hinged End

To one end of the strips is hinged a circular piece of plywood having strips screwed on for support. The enlarged diagram Fig. 1 shows how the notches are shaped and cut, while Fig. 2 shows how the uprights which support the circular ends, overlap at the junction of the hinges, so it is prevented from falling backwards when open, but at the same time does not prevent it from being folded when not in use. Fig. 3 gives all sizes necessary for setting out and making the various parts, and show, too, how the uprights are hinged to the long strips.

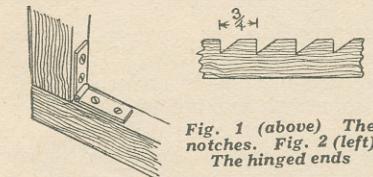


Fig. 1 (above) The notches. Fig. 2 (left) The hinged ends

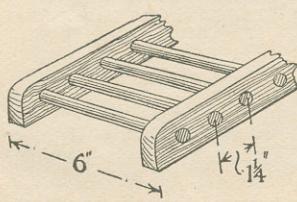


Fig. 4—Details of dowelling

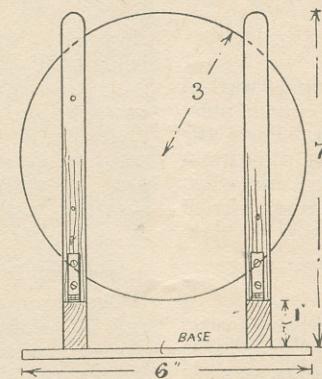


Fig. 3—End view of plain base and rack

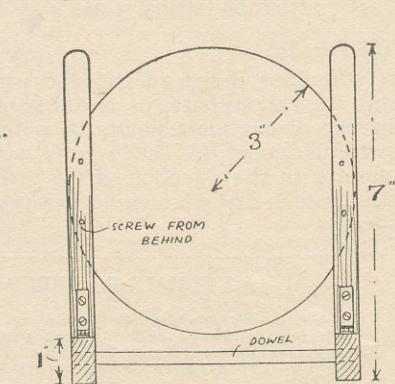
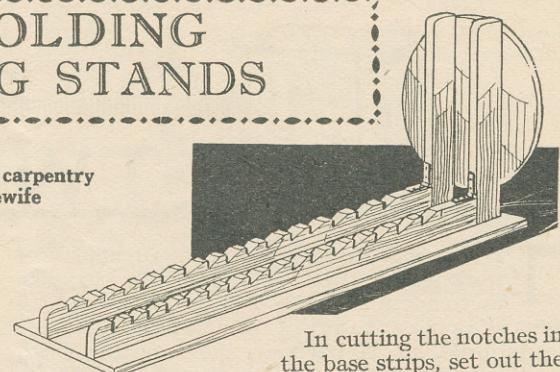


Fig. 5—End view of dowelled rack



In cutting the notches in the base strips, set out the spaces as shown, and cut them down straight with a fine-tooth tenon saw or fretsaw, then, holding the strips at the proper angle in the vice, proceed to cut from a given line down to meet this first cut.

All notches if so cut should be even and regular. The ends of the strips, excepting those coming against the hinges, should be rounded off with the fretsaw and afterwards glasspapered.

The baseboard being plywood and therefore subject to peeling if allowed to remain wet or become saturated, must be well painted and enamelled two coats.

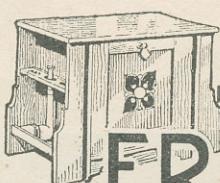
### The Second Style

The second suggestion is much like that just dealt with, only the baseboard is dispensed with, and the rack consists of a number of 6in. lengths of  $\frac{3}{8}$ in. dia. dowel rod let into the strips as detailed in Fig. 4.

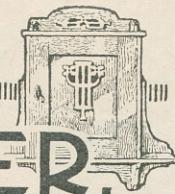
The two strips will be prepared just as before from 1in. by  $\frac{1}{2}$ in. stuff, and then after dividing the width of each strip into two and marking off the centre line holes  $\frac{3}{8}$ in. in dia. will be bored with brace and bit  $1\frac{1}{4}$ ins. centre to centre as shown in Fig. 4.

Cut all the pieces of dowel rod in 6in. lengths and drive them all first into one strip and afterwards lay the second strip on the tops of the pieces and insert each into the holes. Drive home with a mallet and plane any irregularities.

The upright end will be made as in Fig. 5, and fixed to the base strips exactly as in the previous example.



FOR  
THE



# FRETWORKER

THIS week's design sheet offers a real piece of work which readers will be delighted to make up to adorn the walls of their own home or to give as a present to any of their friends.

As usual, all the parts are shown on the sheet, and a complete parcel of wood is provided for cutting out the necessary patterns. It is thus a straightforward matter to paste the patterns down to their respective boards and to cut out the parts required.

This is one of those pieces, by the way, where it is not recommended to use plywood because so many of the edges are showing in the finished article. Nothing looks more unsightly than the various layers in plywood, and even if you attempt to cover them up with stain, you have to darken down so much that the whole effect is spoiled.

## Use Fretwood

It is so much better to cut out the whole article in the proper wood in order to obtain an attractive piece of work. Plywood, too, is never very reliable for fretwork because if you buy some of the cheap material that is now offered, this may look alright on the outside, but when you begin to cut frets from it and take out the interior, some of the layers are only loosely glued and in consequence fall out instead of being a solid substance.

However, we are recommending whitewood and mahogany for this pedestal bracket, which when completed will serve as an excellent holder for a small clock, vase or photograph, or any small ornament.

It is 13 $\frac{1}{4}$ ins. high and 9ins. wide, with a projection of 4 $\frac{3}{4}$ ins. This projection is provided by two box-like formations between which is one of the ornamental columns supplied already shaped to fit. The top box formation is larger than the lower one, and provides a platform 4 $\frac{1}{4}$ ins. from back to front and 8 $\frac{5}{8}$ ins. wide.

## The First Job

A striking design of leaf and curve is worked into the various patterns, and this, of course, must be one of our main points to watch. Paste the patterns down to the boards with the grain running in the direction of the arrow, and when the paste is dry you can begin work upon any of them.

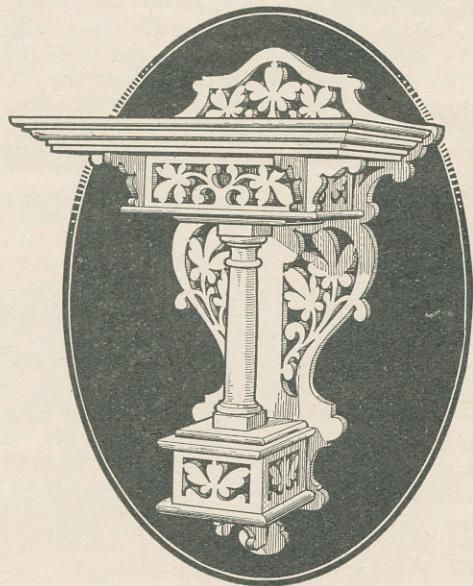
### MATERIALS REQUIRED

*Fretwood.*—For making this Bracket, we supply a parcel of selected whitewood and mahogany, including No. 33 Column and sufficient No. 21 Moulding, 2/6, post free 3/-.  
*Fittings*—Bracket Eyes for hanging bracket, 1d. per pair

There is little that should be beyond the ability of even the beginner, but one of the points to watch is the construction when all the parts have been cut. The best plan is to cut them all out first, then clean them up before putting together.

At the same time notice where the joints or adjoining pieces have to come, and if necessary make some little mark when you are testing out, so

## PEDESTAL WALL BRACKET



they can be returned to the same place when being finally glued in position.

As mentioned, the main back is adorned by the two box-like formations making up the shelves, and the details given herewith illustrate the construction of these clearly. If studied in conjunction with the plainly lettered parts on the sheet, there should be no trouble in making them up.

### Independent Parts

The lower piece is the smaller, and both this and the top can be made up independently, then glued on to the main back when the whole thing is complete.

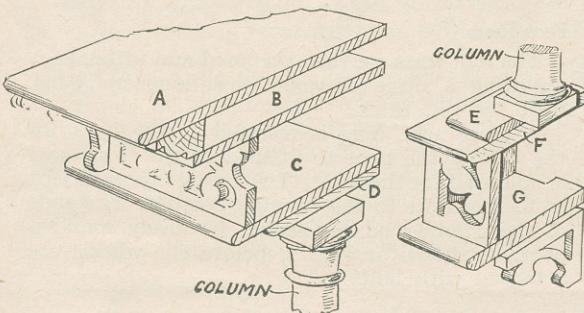
In the case of the lower one, too, the position is

ruled by the mortises cut in the back F and G, but the larger one at the top is merely glued and screwed on. When the back is cut, make little pin holes through where the pillars of the upper framework are to come, as this will show the position after the paper has been cleaned away.

The upper box can be made independently and consists of parts A, B, C, D, I and J. The back edge of all these pieces is flush because when complete the whole thing is glued to the main back itself. Remember this in fitting them together.

#### The Cornice Parts

First get out the front and two sides to the cornice, and halve them together at I. They are then glued centrally between pieces B and C, remembering to keep the back edge of all of them level. The position is indicated by the dotted lines on piece C where these fretted portions fit.



Round the upper surface of B is fixed the moulding (No. 21). Stand it with its narrowest edge on to the top of the piece B, remembering to mitre the two front corners to get a good joint.

The back edge, of course, is cut level with the edge of B, and then over the whole of this hollow frame comes the largest part (A). This projects on the front and two sides about  $\frac{1}{4}$  in. all round. If necessary, the fretted sides can be lined up behind with linen cloth or fancy paper and blocking pieces added to give further strength.

#### The Lower Bracket

Now let us transfer our attention to the box form at the foot of the back. Here we have the two pieces F and G, and between them are fitted the front and two sides. These are the fretted pieces and the two sides are glued behind the front. Get this box formation perfectly square, and if you like, add the linen material behind as in the case of the upper work.

Below this box when it is fitted to the back, is the little ornamental bracket letter H. Be sure to get the rightangle true so it fits snugly under the projecting shelf, and flat to the back itself. Glue in position, and if necessary, add one or two long screws from behind.

Now take the column supplied, and cut off the stub tenon projecting at the bottom end. This must be done flat so the whole part stands neatly to the base of the column piece E. The edges of this have to be rounded before gluing on to the base of the column.

#### Fixing the Column

At the other end of the column—the top—glue on in a similar way the piece D. Notice in this instance that the column is not quite central, but nearer the front edge than the back. The back edge is not shaped because it comes close to the back of the bracket.

When the column and these two pieces are added at the top and bottom, the whole thing should fit in between the box projection above and below. This box portion—the upper one which we described first—is glued on in the position indicated, but before finally fitting, test out to see the column and its capping pieces comes just between.

#### Final Adjustments

H Glue the whole of the top portion in position then drive in a few screws from behind to give further strength. Be sure, of course, that it does not sag towards the front so the column portion cannot be put in place. Apply glue to the top and bottom of the column caps, then fit so the whole thing comes tightly between the projecting brackets.

A final rubbing of glasspaper should be given to the whole thing, then you can stain and polish it in the usual way or leave it with the wood in its natural state. The main scheme of the design is to have whitewood for the back and mahogany for the shelf and similar parts, to get a relief to stand out and match the mahogany column.

#### Suitable Finish

Whitewood, of course, is not very suitable for staining, but can, if you wish, be just varnished over to prevent it getting dirty and spotty. On the other hand, the varnish largely takes off the nice surface and appearance of whitewood.

Altogether, the best plan is to leave the whole thing with the wood in its natural state, and to provide two of the metal hangers so it can be hung on a wall.



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# HOW TO MAKE “SKI-WHEELS”

FEW ever have the opportunity of visiting continental resorts and taking part in the winter games, chief amongst which is ski-ing. This excellent sport may now, however, be enjoyed in our own land by using wheel-skis in place of the continental kind.

This is a really healthy and enjoyable sport which will become popular in this and other countries, as unlike the older form of ski-ing, there is no need to wait for a heavy fall of snow, but it may be practised all the year round.

## The Wheels

Ski-wheels having a flat running board—the smallest size for boys being a little over 2ft. long—with wheels fitted at each end. These should be of the metal disc type, fitted with heavy rubber tyres to absorb shock. A foot rest is fixed on the running board, and leather straps provided for holding the foot securely to the rest.

One of these ski-wheels is shown at Fig. 1, from which it will be seen how simple it is to make. A pair of skis must be provided to enjoy the sport, and also a pair of ski-sticks, but the total cost of the whole outfit is quite nominal.

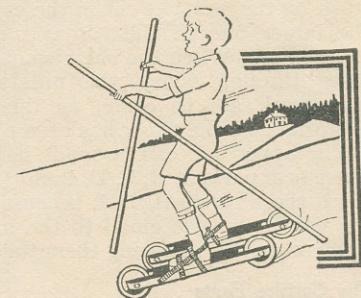
As the skis will be subject to hard wear and many shocks, it will be necessary to make them strong to prevent accidents. It is therefore advisable to use hardwood for the parts shown at Fig. 2.

## Running Board

Each running board is made with three pieces of wood bolted together, and while there is nothing difficult about the construction, the wood must be planed straight and true. For the smallest size ski the two outer pieces of wood should be 2ft. 4ins. long, and the middle piece 1ft. 4ins.

All are required 1in. thick, and when they are finally fixed together the total width should be 3½ins. The object of having three pieces of wood and bolting them together is to form the recesses for the wheels to fit in, as shown at Fig. 1, and the exact width of the various pieces depends upon the thickness of the wheels.

If this is 1in., then the middle piece will be the same thickness, and the two outer pieces 1½ins. to bring the total width to 3½ins. The positions in which the bolt holes should be drilled are clearly indicated. Four series of holes are required in



each running board, two bolts being used to fix the three pieces together, and two for attaching the wheels. The two bolts which fix the pieces together should be fitted and screwed up, iron washers being placed under the nuts to prevent them from cutting into the wood.

## Foot Rests

The foot rests are then prepared and fitted, each requiring a piece of wood 9ins. long by 3½ins. wide by 1in. thick.

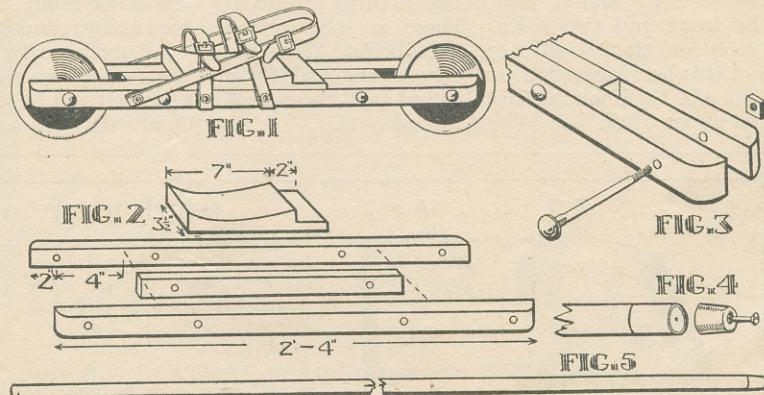
A piece 2ins. long is recessed at the back for the heel of the boot to fit in, and the front part is hollowed for the sole. Two screws are sufficient to fix the rests to the running boards. The ends of the running boards should be nicely rounded over, as shown at Fig. 3, before the wheels are attached with bolts.

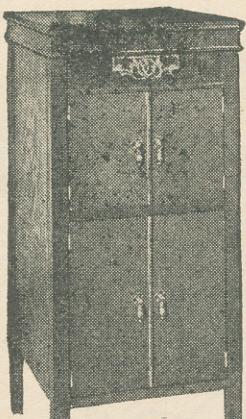
## Bolts and Bearings

These bolts should not be screwed so tight that they will prevent the wheels from working freely, the bearings should be well greased, and if there is any fear of the nuts on the bolts working loose, the ends of the bolts could be burred over. As far as the skis are concerned, the only thing remaining is the foot straps.

A pair should be arranged to fit right over the boot, one near the toe, and another as far back on the foot as possible, while a third is arranged to run back around the heel. Fixing could be accomplished with round-head screws, iron washers being placed under their heads, and the ends of the straps doubled back for strength.

(Continued on page 172)





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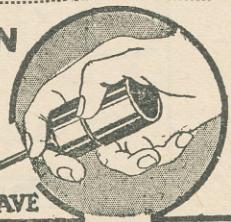
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FILM GUIDE

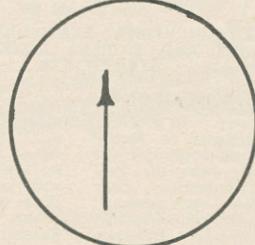
CUT ONE AS SHOWN AND ONE  
PLAIN AS PER DOTTED LINE.

## The HOBBIES HOME CINEMA

(2nd Sheet)  
(See page 171)

BASE

CUT IN  $\frac{1}{8}$ "

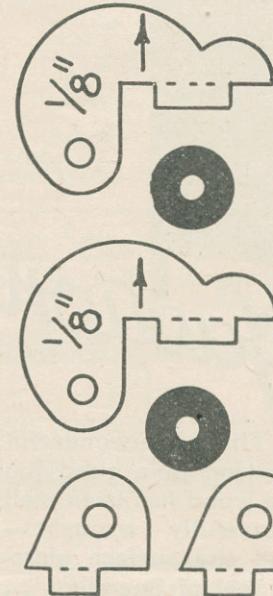


Foot  
 $\frac{1}{8}$ "

CUT FOUR

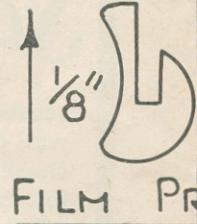
LENS DOOR

CUT ONE FROM  
 $\frac{1}{8}$ " PLYWOOD

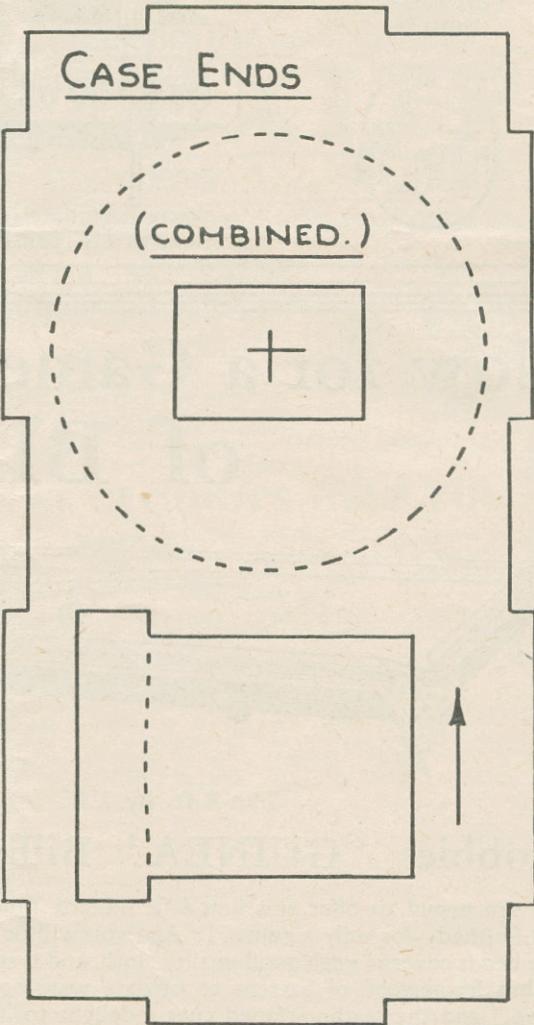
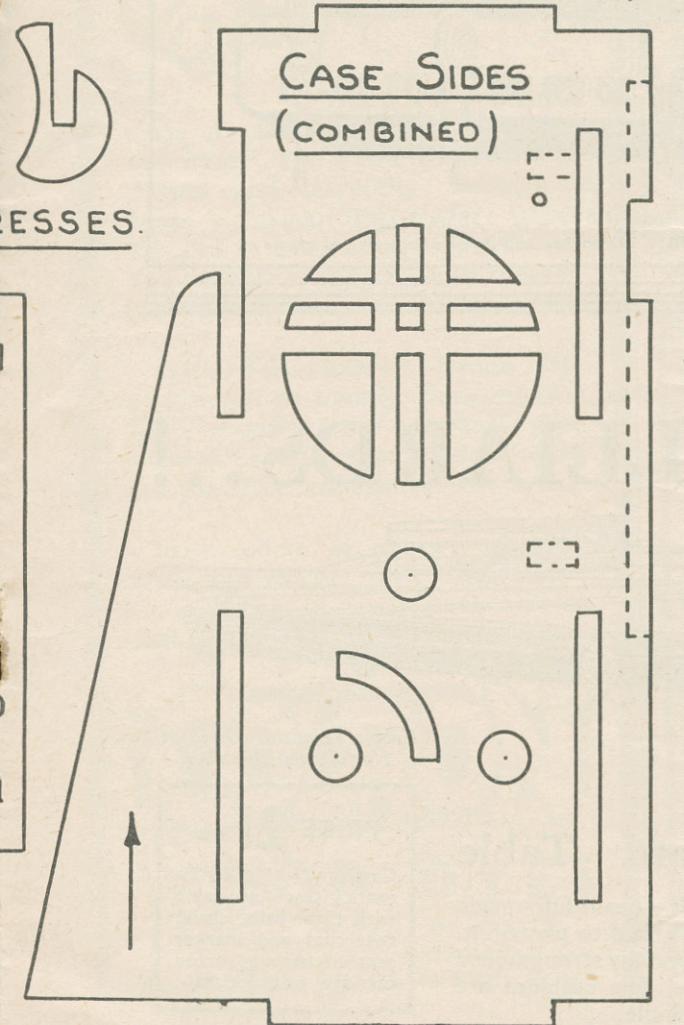
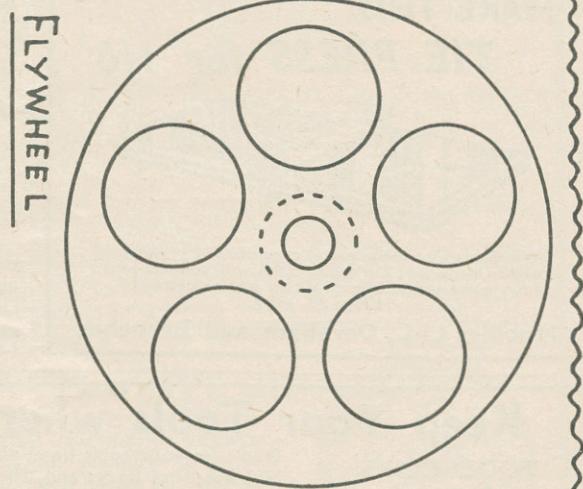
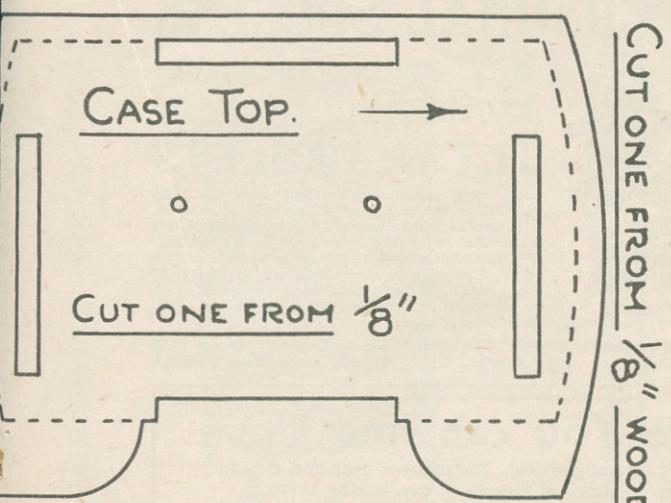


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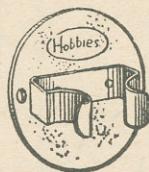
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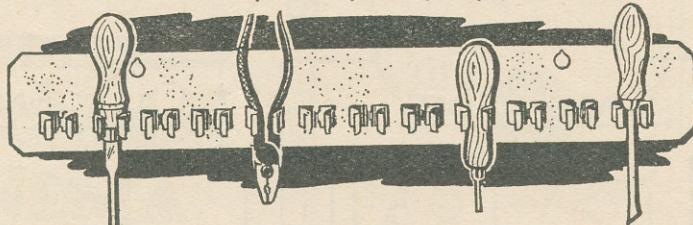
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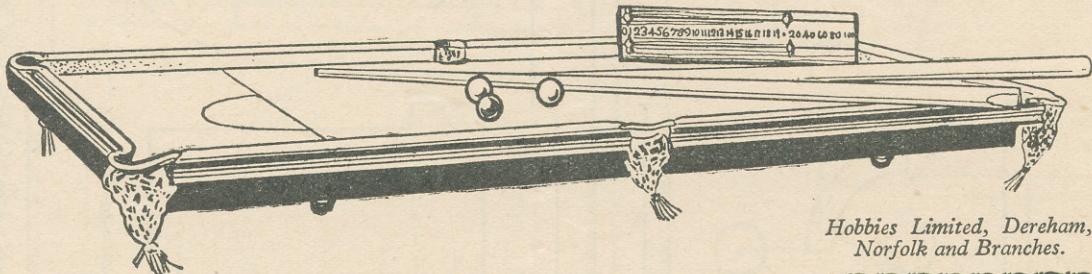


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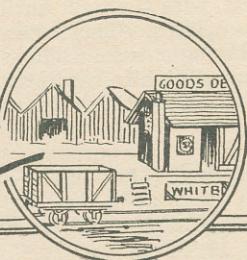
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Carriage 2/-. Marker 2/- extra. Complete table with three balls, chalk, two cues and marker sent in strong carton carriage paid for 25/-.



# Model Railway Accessories



THE London Midland & Scottish Railway, like other great companies, are at present carrying out extensive reconstruction plans at practically all their important locomotive centres, and amongst other features there are being installed at almost every outstanding traffic centre, new coaling facilities for engines. The types of stage used, vary with the size of the depot and the business. The one selected for a model to be described in these articles is representative, built to the OO-Gauge.

Some of the new stages receive the coal from wagons at the ground level and hoist it in skips to the top of the stage, where it is tipped into the bunker above, being afterwards served to engines. A more interesting type is that which hoists the wagon itself, tips it at the summit into the bunker, inverts the wagon again and lowers it back to the tracks. This is the type to be described.

#### Position of the Stage

An important item is that of the relation of the stage to the movements of locomotives. Engines are coaled on arriving at the depots, and not just prior to their departure; it is therefore important to see that the stage is installed to serve the incoming rather than the outgoing tracks. Similarly, the ashpits for receiving the dead ashes from the firebox grates, together with any apparatus in connection with the pits, are located between the same tracks.

The photo shows the stage prepared for the reception of a wagon, the train of which is being pushed towards it. Other photos will depict the stage at various points during the process of its operation.

#### Helpful Drawings

Figs A and B give front and side elevations of the appliance as modelled; C is a perspective sketch with the purpose of making clear the method of operation and construction; D shows the underside of the wagon lift with its tipping weight; E, the dummy locomotive coaling doors; F, the dimensions for the small plywood baseboard section on which the stage is built; and G gives some notion of the arrangement of the control cabin and stairway inside the under part of the stage.

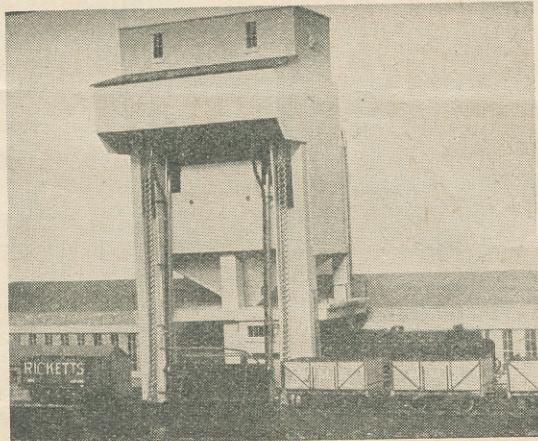
#### Work on the Baseboard

The work should begin with the making of the baseboard section, and this must be accurately and neatly cut from a piece of  $\frac{1}{2}$  in. thick plywood  $8\frac{1}{2}$  ins. by  $7\frac{1}{2}$  ins. A cavity is cut out of it as shown,

leaving two projecting sections at the front,  $2\frac{1}{2}$  ins. by  $1\frac{1}{8}$  ins. Three square holes are also required in this base, set according to the dimensions given; they are for the purpose of receiving the central coal chute, and (the outer ones) for the passing of the lift counterweights from above to below the baseboard.

The latter is necessary owing to the fact that the length of the movement of the counterweights from the top to the bottom extremities of the

## MODEL OO GAUGE COALING STAGE



*The model stage with grip in readiness to receive the wagon*

stage is greater than the height of the stage itself. When the model is finished, it will be necessary to have a hole in the baseboard of the railway layout exactly the size to take this baseboard section.

#### The Walls

The next step is to cut all the various forms of the side walls of the stage from cardboard. There will be two floors, one for the base of the bunker, the other for the operating deck, which is hand-railed and just below. These should be left for the moment, till the four walls are assembled.

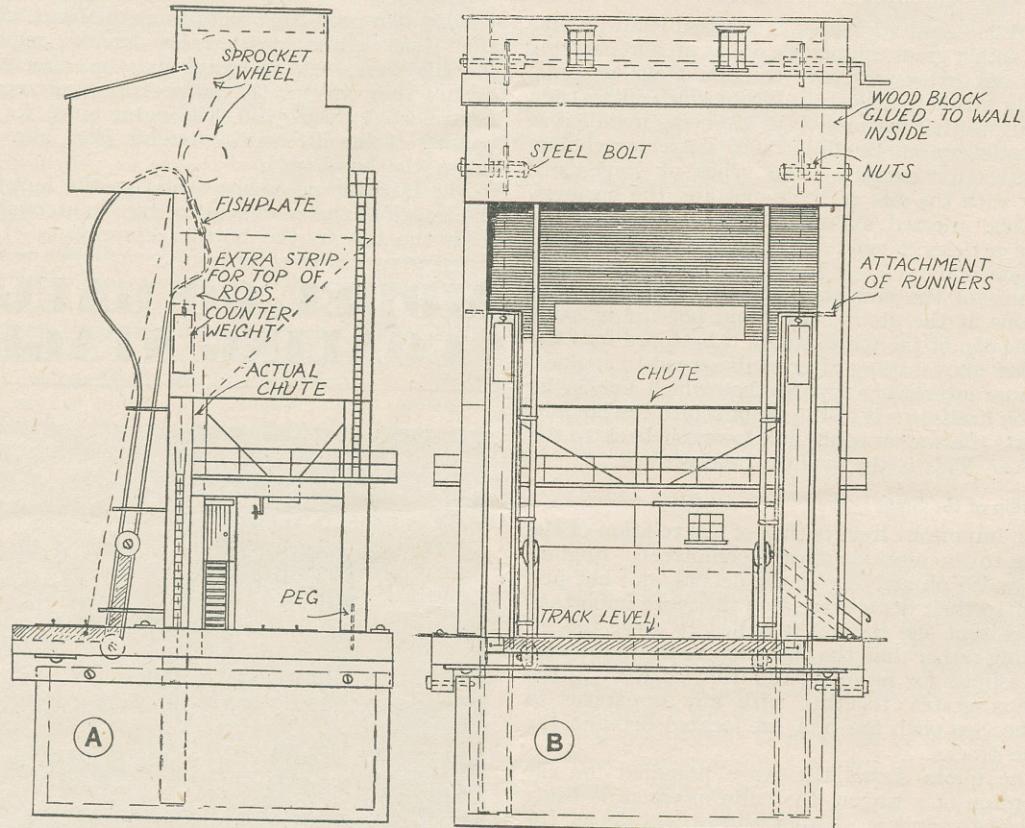
These consist of the two peculiarly shaped sides, the rear wall in three sections and the lower and upper portions of the front walls. The front of the projecting part of the stage near the top is

left, with the roof, until the whole work is almost completed. This allows access to the inside. Having cut the walls as now required from sound smooth white cardboard about  $1/32$  in. thick, the four supporting columns may be cut from stripwood.

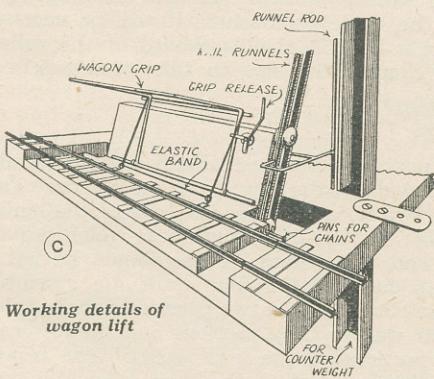
For this purpose,  $\frac{1}{8}$  in. square stripwood is required. Two of the columns should be attached to the front of the sides and two to the rear, care being taken to get these absolutely at right angles.

Pin them with gimp through the cardboard and use glue also. The columns terminate at a level with the top of the right hand side ladder shown in Fig. A. Their full length can thus be had with the help of the scale.

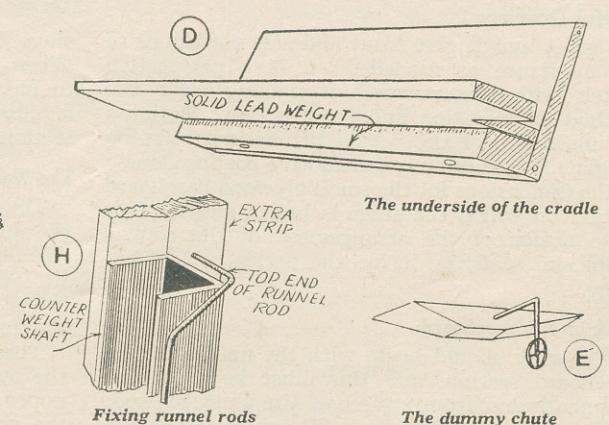
We now have two side sections of the special shape, attached each to a pair of columns. Next fit the rear wall pieces. The corner joints of the walls may be secured—in addition to the use of glue on the stripwood edges—by the use of adhesive



Side and front elevations with scale



Working details of wagon lift



parcel-strip on the outside, neatly cut and lapped over.

The next thing to do is to fit the upper floor so as to hold the structure rigid. Do this with glue and parcel strip, the glue on the edges and the strip on the outside longitudinally. Before doing this, however, cut the square hole in the top floor to take the upper end of the chute, finding the position by placing the stage experimentally in position on the base and getting the hole plumb with the lower one in the base.

Endeavour at this point to get the whole structure standing square on its feet before the glue sets hard.

Two blocks of planed wood will now be wanted to serve as bearings for the mechanism at the top. These are cut to shape and glued and sprigged on the inside of the side walls. The sprigs should be driven of course from the outside of the wall into the wood.

#### The Roof

The roof may now be made and consists of a piece of cardboard having a block of wood underneath, glued on, fitting exactly inside the walls and about  $\frac{1}{2}$  in. in thickness. This will serve both to hold the roof in place, while permitting it to be lifted off for inspection and oiling; and also for preventing the sprocket chains (by the weight of the wood block) from slightly lifting off the gears in turning.

Later it will be necessary to place these gears so that the chains will just wipe the underside of this roof section. The additional top pieces for the rear, where the cavities are by reason of the eccentrically shaped back, may be covered with glued-on strips of cardboard. The writer uses Dennison's card-strip  $\frac{1}{2}$  in. wide, of which he always keeps a stock on hand. All abutting edges of these strips should be glued.

The window apertures at the front near the

top may now be cut. This can be done by resting the structure on a piece of wood inserted inside the open top. The lower floor, with the handrails, should now be fitted.

It is formed from card, but rests on a framework of stripwood fitted accurately inside the four columns to take it. Another hold for the coal chute will be necessary in this floor. It may be cut out of the front edge of the floor-piece. Leave the handrails till later, but glue the lower floor securely in place.

It is now necessary to peg down the structure to the base-section, and this is best done by using panel-pins with their heads cut off. Fine holes are drilled up the centre of each column, the nails inserted with glue, blunted ends upwards, leaving the pointed ends exposed. By slight pressure, the position of the pins on the base is then ascertained and further holes drilled to take them.

#### The Complete Building

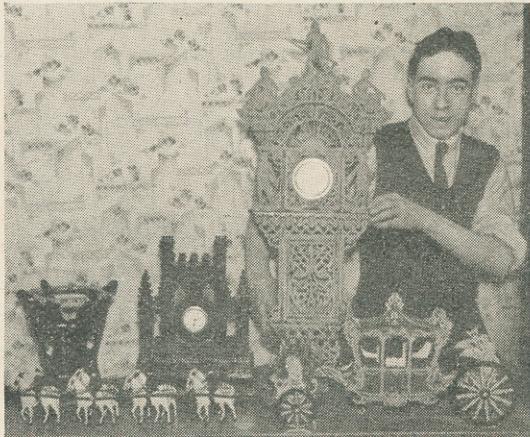
The columns have their ends glued and the structure can be fixed. The result should be a perfectly rigid building, sufficiently interesting to encourage the builder to push on with the work.

The operation of the sprocket gears (Meccano) is by means of small counterweights as on the actual stage. These weights move up and down in channels formed on the front of the building, and this should be the next effort. For making them, use three lengths (each) of card-strip. Each of the channels is formed by gluing the back strip inside the two side strips, and a very strong job can be made by covering the outer sides with parcel paper.

These channels, be it noted, extend from the point indicated in the drawing (Fig. B) right down to the bottom of the box below the base. When they have been formed, they are fixed through the holes in the base and to the front with glue.

*(To be Continued)*

## Another Keen Reader Worker



WE show from time to time in these pages, pictures of ardent workers and the models and articles they have made. Here is another one to add to the collection, and this time we have a reader from Ettingshall, Nr. Wolverhampton. His ability is obvious from the picture and all of it has been cut out with a few fretwork tools and the designs given in these pages or shown in the Hobbies Handbook.

The Father Time Clock which he is holding is an exceedingly popular one, and of course the Coronation Coach has been made up all over the world.

The reader concerned is Leslie Pearson, and he is certainly to be congratulated on his ability. The Design on the left is of a tapering Flower Vase, but unfortunately it has not come out very strong in the picture.

We are, of course, at all times pleased to receive photographs from readers and use them when they are suitable, and pay 2/6 for each one published.



IT will not come amiss to start these notes this month with a reminder that it is barely two months to Christmas—the season of Troop good turns—for a really worth-while troop gets these well in hand long before the season arrives and the best way is to organise in-patrols.

To those who can arrange shows to get funds, distributing parcels of groceries, is a fine way of giving enjoyment to others less fortunate than yourselves. Coal can also be given away, while an excellent good turn is the distributing of logs sawn up by the patrol.

Mending toys is an obvious task for "hobbies" scouts, with the skill and advice of *Hobbies Weekly* behind them, but collect your toys early and get on with the job and you will reap the reward of delighted kiddies who probably have never had a decent toy.

Entertaining the poor boys of your district is another way of doing a Christmas good turn and may furnish you with a few recruits, but whatever you decide to do, get on with it now and do it well.

#### What to Look For

THIS is the month in which thumbsticks and staves may be cut from the hedgerows now that the sap has gone down.

There is a famous old song called "Hedgin' and Ditchin'" and all over the countryside you will see the hedges being trimmed for the Winter, and the ditches and ponds being "fied" out to drain away Winter's surplus water.

Fields will be ploughed to allow the frost and birds to get at the pests, while Winter sown corn will be planted. In the animal world Squirrels, Badgers and Hedgehogs all start their long Winter sleep. A month of interest.

#### Boxing (Continued)

ALWAYS lead off with the left foot, straightening the right to give additional length to the arm, springing back with the left leg after a blow to the original "on guard" position.

After you have scored a leading off hit, the correct thing to do is to retreat away from your opponent, always remembering that correct foot-work is essential or the whole balance of the body will be spoiled and even a minor blow might be disastrous.

Many learners seem to get mixed up with their arms and the correct position is to have the left fore-arm pointing towards your opponent with the upper part of the arm protecting your ribs, while the right arm should be slung in an easy position

across the body ready to guard the heart, both arms should accept a free and easy attitude; the head should be turned slightly aside and keep the mouth shut, encouraging breathing through the nose.

This paragraph in conjunction with last month's should have given you the first outlines of the attacking and defensive sides of boxing, and later I will try to teach you some actual attacking and defending positions.

#### Competition

HERE'S a wow. Another month gone and the task of satisfying our numerous competition fans must be done again. How does this appeal to you? Below you will find a limerick with the last line left out for you to fill in, and a handsome prize will be forwarded to the best entry sent in on a postcard by Nov. 20th, to Scout Competition, *Hobbies Weekly*, Dereham, Norfolk.

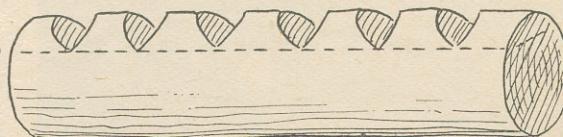
"There once was a Boy Scout named Fred,  
Who read 'Hobbies Weekly' in bed,  
He turned over the pages,  
For ages and ages,

Now all you wits and wags, have a go at this and make it a bumper entry. Patrol Leaders make it a Patrol competition and send in the best entry from your patrol, and if you tell us you have done this, the prize will be a suitable one.

#### Log for a Seat

SHOULD you want to flatten a log for a seat without sending it to a saw mill, here is a way to do it.

First cut several notches in your log of an equal depth and then cut off the remaining pieces, and



if you have kept your notches at an equal depth, you will have a nice flat log.

Note this is not as easy as it looks, so practice on an old log first and you will then be able to use your proper log as a basis for a seat. Logs are more plentiful at this time of the year, which forms a good opportunity to fit out your clubroom with log seats.

The Skipper

# OUR HOME-MADE CINEMA

(Continued from Oct. 30th)

LAST time we dealt with the preparation of the mechanism and other essential parts of the projector, and now we can proceed with the casing, etc., to complete the model. You will find the necessary patterns in the centre pages of this issue, and these—like the previous ones—must be studied carefully before cutting them out and pasting or tracing them to birch plywood the thickness as quoted on each.

Note that the patterns of the case ends and sides and film guide piece contain relative parts as indicated by the dotted lines. For instance, the case end pattern formally has two square aperture cut-outs, with the repeat or second end having a circular and small oblong cut-out only.

Thus, you simply cut out as shown, then cut out another shown by the dotted lines. It would be advisable to have the repeats in reverse to the original pattern, and that's where the "pin-prick" method proves extremely helpful.

## Case and Mechanism

When all the "bits and pieces" have been neatly cut out with the fretsaw, select the case parts and assemble together temporarily. Test the mechanism in place, too, to see that the axles are free in their holes and are not hindered by end washers rubbing tightly against the interior sides of the case. If they do so, rub them down a trifle with glasspaper—not one alone, but both at each end of the axle.

An excellent view of the position of the mechanism parts is seen at Fig. 5. Having the parts ultimately assembled with glue and glasspapered, affix the handle to its proper axle. The film guide pieces are glued to the front end of the case to give a channel precisely  $1\frac{3}{8}$  in. wide—the width of standard film used on this machine.

## The Lens Door

Select the hinge parts and glue them in their relative mortises in the case and lens door. Attach the lens fitment to the door via the slide plate tenons. It is hinged with a  $2\frac{1}{2}$  in. length of  $\frac{1}{8}$  in. dowelling; the washers need not be used unless the dowel is too loose in all four hinge pieces.

Insert the film press pieces in their checks at the base of the door. Close the latter and correct any inaccuracy of the presses which should partly circle the circumference of the film drum an even  $1/16$  in. less all round.

The small door snib is screwed to the case to turn into the projecting door slot. Strips of thick hat felt or baize are adhered over the slide tenons to keep the film running correctly in the channel and thus avoid movement which becomes rather accentuated on the screen.

The four wooden toes are glued to the base corners and covered with smaller circles of air

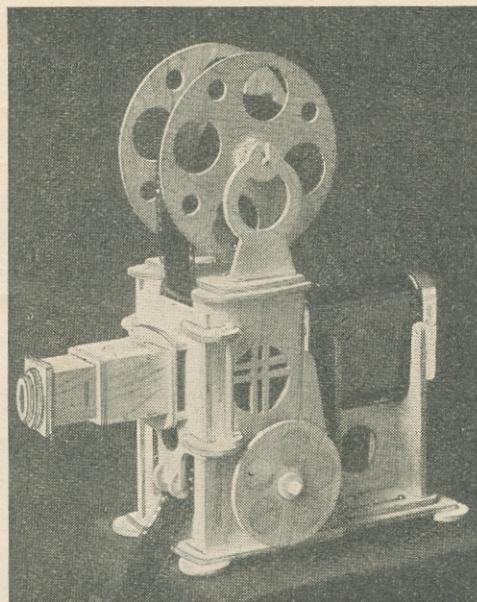


Fig. 7—The completed model ready for painting

tube rubber or the proper rubber feet supplied. Small roundhead brass screws are screwed halfway into the base and case top as a means of holding the lamp and spool holder temporarily in place.

## The Flywheel

If desired, the flywheel could be cut from  $\frac{1}{4}$  in. material instead of  $\frac{1}{8}$  in. stuff as marked. We mention this because the heavier the wheel, the better the momentum and smooth running of the machine. The holes in the sides of the wheel are "loaded" with discs of lead of the same diameter and thickness.

To do so, cut out five suitable holes in a scrap piece of wood, then nail a piece to the bottom. Melt some old lead piping in a tin and pour it into the holes until level with the surface of the wood. The lead discs are then filed flush with the mould and removed. Insert them into the wheel, and if they should fit loosely, set the wheel flat on a tile and hammer each disc gently.

## Suitable Finish

Be careful not to split the delicate woodwork on account of "swelling" the discs too much. Having filed across both sides of the wheel, glue and washer it on its shank at a safe distance from the edge of the base.

As a finish, the model could be given an almost "dry" application of black, brown or green varnish paint or be enamelled in bright colours. If the paint were applied too thickly, it is likely to run into the axle holes and interfere with movement, which is obvious.

Do not paint the lens extension box, except at the front. Circular pieces of chocolate-coloured cellophane are glued over the case windows to prevent any escape of white light. Damp it before adhering to the glued windows.

#### Film and Screen

The spool of this model holds about 100 feet of standard 1 $\frac{1}{2}$ in. film. It would be quite easy, however, to make a larger spool and holder to take 200 feet or so. The more film, remember,

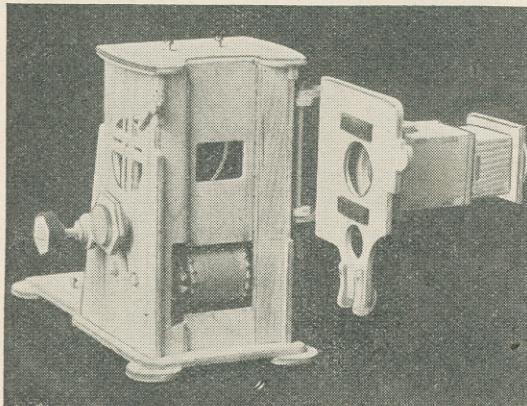


Fig. 5—The front open to show working

the heavier the spool and the greater the "drag" on the mechanism.

You should be able to obtain 6d. and 1/- and 1/6 boxes of standard film at most local toy shops, and then there are frequent advertisements inserted in this paper by firms who stock film at all lengths and prices. The 6d. boxes of film usually contain about 20 feet of decent, but fairly old stuff, which is only to be expected.

#### Joining Films

Odd lengths of film can be joined together by first scraping away a portion of the emulsion side and glasspapering the joining ends. Tube glue known as "Certofoix" is ideal as a joining solution, including doped adhesive.

The size of a screen varies according to the distance you wish to project the pictures. If you work at a distance of 9 feet, you will need a screen permitting a "frame" of 4ft. 6ins. long by 3ft. 6ins. wide. A distance of 6 feet requires a frame of 3ft. 6ins. by 3ft. 0ins., whereas 4 feet needs a frame 3ft. 0ins. by 2ft. 0ins., which is a good "between" size. By the way, the "frame" is the white oblong only, not the black border (see Fig. 8).

#### Ski-Wheels—(Continued from page 162)

It will be necessary to carefully arrange the straps with the buckles outside, and when the correct positions have been ascertained a few stitches could be carried through the heel strap, and each of the others where they meet, to hold them together.

By careful adjustment it will only be necessary to unbuckle the heel strap to remove the foot.

The ski-sticks should be 4ft. 6ins. long by 1in.

You can make a screen very easily from a sheet of cheap 3/16in. plywood. Allow for a suitable border all round. It could be given a flat coat of white paint, then bordered in the manner shown. It could rest on a chair or be hung on a convenient hook or from the picture rail.

#### Re-winding

A re-winding spool for ante-film was not practical with the model owing to the severe strain on the serviceable, but none too strong mechanism. By opening the lens door, the trail of projected film is speedily returned to the empty spool by "palming" it backwards with the right hand.

When projecting, hold the model at the case top and turn the handle at a steady pace. Be sure to turn in circular motion, not with up and down elliptical jerks which, while producing a series of "quick action" pictures, will also quickly

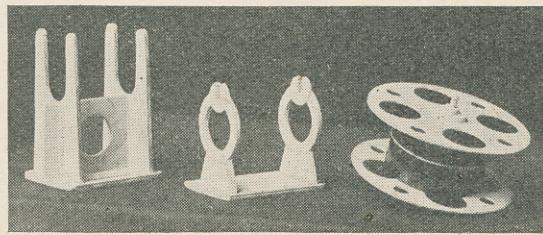


Fig. 6—A clear view of lamp holder, spool holder, and the spool itself

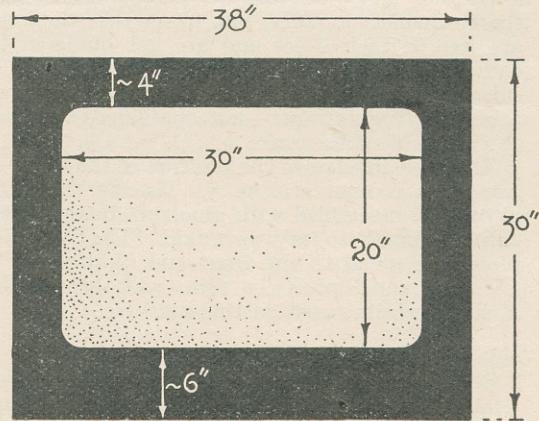


Fig. 8—A suitable style and size of screen

work the handle off. But, such a warning, we know, is only superfluous. Should you have a little difficulty in operating, don't forget that candle grease will work wonders.

diameter for the smaller size skis. Details have been shown at Figs. 4 and 5 because it will be necessary to tip the bottom ends with metal ferrules, and below them some may care to fit rubber tips, which may be attached with screws. On some surfaces these tips hold better.

Painting a ski-ing outfit is important to its good appearance and it is possible to obtain a striking effect with bright colours.

# Books WORTH READING

## The Craft of Modelling Railways

By Edward Beal.

Thos. Nelson & Sons Ltd., 10/6.

THE readers of *Hobbies* Weekly need no introduction to the hobby of making model railways, and here we have an entirely new book on 00 Gauge models by the author of those fascinating articles which appear from time to time in our own pages. The real joy of these tiny models is that they can be made from odds and ends of bits and pieces, and with a little patience and ability can be built into a complete and very realistic layout. The Gauge is, of course, the smallest found in the range of model railway making, but even so, a complete layout can be built. Proof of this is shown by the many photographs of actual models given in the book, whilst the detailed drawings—there must be thousands of them—show the buildings, rolling stock, lines, platforms, gantries, bridges, etc. and exactly how they are made.

The book really tells you the whole work from A to Z, beginning with how to build suitable base-board, followed by rules of layout, then passing on to the suggested stock, how to make it, how to use it, and how to incorporate it into a general scheme. Details of tools and equipment are also shown, and we are pleased to note that the author makes due acknowledgment to the usefulness of the various *Hobbies* tools and materials in his work.

The reader who wants to set himself out to make a complete roomful of railway lines, could not do better than purchase the book and follow some of the layouts and try his hand at the scenic effects which form one of the chapters therein.

## Modern Woodwork and Furniture Making

By G. H. Barker.

Technical Press, Ltd. 7/6

THIS manual consists of 146 pages dealing with the making of practical pieces of woodwork for the home. The drawings are

clear, but of course technical, and each article is given concise details of construction with a cutting list as well. It deals in the first part with modern developments in decoration, shapes, necessities, material, etc. then goes on in part 2 to the actual making of a wide range of furniture and miscellaneous objects.

The author G. H. Barker, is a well-known expert on this subject, and one who can be trusted to produce practical work within the range of the student, teacher or any craftsman for whom the book is primarily published.

## Working with Tools for Fun and Profit

By A. F. Collins.

D. Appleton Century Co. 6/-

WE have before remarked in these pages on the excellent type of book produced by this author. The simple yet practical way in which he explains everything to the reader, and the knowledge that what he says is really safe to apply in practical work.

This book is clearly printed with a large number of illustrations in its 228 pages. It has the big advantage of covering all the usual odds and ends of details missed out of most instruction books. There are, for instance, drawings of such details as brads, headless nails, steel cut nails, escutcheon pins and so on, as well as corrugated fasteners, and how to use them, many types of hinges and knobs and how they can be incorporated. Accessories are so often the parts which mean so much to the beauty and finish that it is unfortunate they are often overlooked. We are glad to see Mr. Collins deals with them thoroughly.

There are, of course, complete chapters on tools, and here again not only do we see the tools themselves, but how to use them, how to sharpen them, how to test them, and so on. Little things like the spirit level, measuring with a rule, the use of an oilcan, kinds of wood to use, winged dividers are only a few of the many

helpful points raised in the chapters in part 1.

In part 2 we pass to the things which actually can be made, and the author takes the home carpenter step by step with instructions which can be easily followed by the merest beginner. There are, too, illustrations which further help the worker, whilst at the end of the book is a comprehensive index in which can easily be found any of the thousand and one things required.

## Woodcraft in Design and Practice

By Rodney Hooper.

B. T. Batsford, Ltd. 12/6.

IT is certainly difficult to keep pace with the types of modern furniture which are constantly being put into our shops. There is, however, a general tendency in the severe direction of straight lines and short curves which can be traced right through most styles. Plain tables, sideboards, bookcases, etc. indicate how we have progressed from the time of intricate decoration on furniture in the home. These styles, too, create new difficulties for the carpenter and the home craftsman to overcome in the way of building, and construction.

Such a book as this is very helpful in taking one through the methods to be employed. There are 100 pages of text, more than 100 sketches and diagrams, and 40 photographs of furniture designed by eminent designers. The fact that it is a Batsford book makes it in a class to be relied upon, and those who want to turn out really good jobs should obtain such a book and follow out the instructions for the many articles shown.

One section, for instance, deals with chimney pieces and shows how to fit over tiled surround, or put in surrounds for gas or electric fires. These are the types of job which could not be undertaken without some pre-knowledge, and a book like this is therefore worth a lot to anyone undertaking such jobs.

# MISCELLANEOUS ADVERTISEMENTS

The advertisements are inserted at the rate of 2d. per word prepaid. Name and address are counted, but initials or groups, such as E.P.S. or £1/11/6 are accepted as one word. Postal Order and Stamps must accompany the order. They will be inserted in the earliest issue. To sell anything except fretwork goods or those shown in Hobbies Handbook. Orders can be sent either to Hobbies Weekly, Advertisement Dept. 80/32 Ludgate Hill, London, E.C.4, or Dereham, Norfolk.

**L**ONELY? Then write Secy., U.C.C., 16BB. Cambridge Street, London, S.W.1. Genuine. Established 1905.

**F**RAME YOUR OWN PICTURES! We supply mitre block, cramps, mouldings, etc. Easy, fascinating work. Profitable, too!—Hobbies Ltd., Dereham.

**I**NVENTIONS PROTECTED. Booklets gratis.—Reginald W. Barker & Co., Patent Agents, 56 Ludgate Hill, E.C.4.

**I**T'S EASY TO ENLARGE DESIGNS, pictures, etc. up to eight times original size with Hobbies all-steel Pantograph. 4/6; post 6d.—Hobbies Ltd., Dereham.

**R**EAD the "Stamp Collectors Fortnightly." Editor Fred. J. Melville, for lively articles and latest news, 5/- annually or 2d. fortnightly from your newsagent. Specimen from "S.C.F." 44 Bedford Row, W.C.1.

**S**TAMPS. Approvals from 1d. each. Good discount. Send postcard.—Jones, Bimport, Shaftesbury.

**W**ANTED original poems, songs for immediate consideration. Send poems to Columbian Music Publishers, Ltd., Dept. 280, Toronto, Canada.

**Z**ANZIBAR JUBILEE Sets 1/9; F.D. Covers 2/6; Kenya Coronation Sets 10d.; F.D. Covers 1/3. Cash with order.—T. M. Nagarwala, Box 47, Zanzibar.

**M**ONEY-MAKING OPPORTUNITIES constantly occurring; highly recommended; particulars free. Send postage—Messrs. Green, 17 Church Lane, Hull.

**100 STAMPS** all different, free to approval applicants sending 2d. postage.—Errington Macquire (0), 51 Atkins Road, London, S.W.12.

**R**ADIO TURNED RADIOGRAM. Electric motors 25/-; Pickups 9/6; Heads 4/3; Pedestal Anexagrams £5/5/-; Tablegrams £4/4/-; Portables AC mains £3/10/-; Battery £2/10/-; Automatic record-changers £6; Acoustic Gramophones, Portables, Pedestals, Spring motors, turntables, tonearms, soundboxes, horns, cabinets, fittings, springs, wheels, musical instruments cheapest. Unique assortment. List free. Gilt alarm clocks 8/6, approval.—"REGENTHOB," 120 Old Street, London, E.C.1. Telephone CLE. 5770. Established 34 years.

## MODEL ENGINES AND CASTINGS.

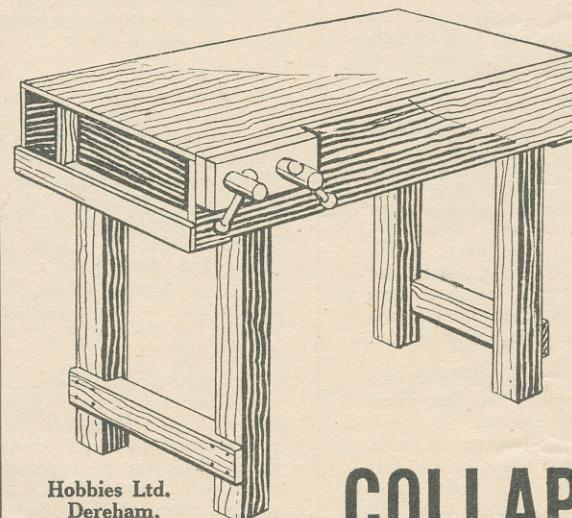
**B**UTLER'S Factory, Littleover Works, Derby, can supply model Petrol-engine castings,  $\frac{1}{2}$  h.p., 9/9, and several small types boat and aero sets. Castings from 4/11. List 3d. stamps.

**R**EQUEST APPROVALS, 1d. upwards.—Ormsby, Harryville, Lisburn, Ireland.

**S**TAMPS, Bought any country; Cheap approvals.—Burley, 21 Jardine Road, Aston, Birmingham.

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**M**AKING A CLOCK We supply movements from 3/9.—Hobbies Ltd., Dereham.



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much room . . .*

.....here's a Bench that will interest you. It is collapsible for storing away in a small space. The legs are readily detachable.....yet the whole thing is as firm as a rock when put together again. All done in a jiffy! Size 3ft. 6ins. long, 17ins. wide, 2ft. 6ins. high. Fitted with double-screw vice and tool compartment each end. Made from sound quality materials.

**3ft. 6ins. . . . 30/-**

*Carriage Forward*

**COLLAPSIBLE BENCH**

# STAMP COLLECTOR'S CORNER

## NOTES ON NEW ISSUES

QUITE a large number of new issues have appeared since the last page devoted to these was in front of you. That, of course, is only what we must expect; for one thing there are bound to be a large issue of British Colonials.

The Coronation Stamps were of course, only commemorative stamps and were not intended for permanent use, so from time to time we shall have to chronicle new designs which appear instead of these.

This week, for example, we have two. The first which is illustrated is from Australia, the new 3d. blue issue. Readers will recall the fact that the 1d. and 2d. were illustrated some time ago when a first-day cover kindly sent by a reader was shown.

In addition to the 3d., there is the 6d. and the 1/- The 6d. is a new design, or at least the old design reversed, so it seems different. It is the Kookaburra bird, this time facing to the left instead of the right. This bird is known locally as the Laughing Jackass, or the Settlers Clock, the first name being from the noise it makes and the second from the time at which it makes it.

The shilling design is exactly the same as the previous shilling design, namely the Lyre Bird.

INDIA has two new stamps, the nine pies and the one anna. They are both of the design illustrated, and the colours are green and carmine respectively. They are typographed at the

Surely, so far as form and colour is concerned, the third illustration of the ten centimes stamp from Switzerland is most remarkable. The colours are black and yellow, the latter being the colour of the automobile. They make the stamp appear somewhat like an advertisement poster in miniature, and this may be intentional because the stamps were only sold from the mobile Post Office which has been in operation since March.

According to Messrs. Whitfield King & Co., the new stamps were issued for the first time in connection with the Centenary Congress of the Swiss Association of Civil and Mechanical Engineers and Architects (now perhaps you can understand the reason why so many congresses go by initials).

The stamp is certainly interesting as it introduces a fresh departure in post office work. Such a specimen might very well find company with the five cents stamp of the 1912 set from the United States of America Parcel Post Issue.

IF one had to find a portrait gallery in the pages of the stamp album—only pages from one country being admitted, then surely Belgium would be the first choice.

It must be granted that France has perhaps introduced us to many of her famous men, particularly during the past few years, but as a portrait gallery Belgium leads with absolute works of art. The Queen Astrid Memorial Set—taken from



From Australia George VI. Indian

Printing Press, Nasik, a town approximately one hundred miles north east of Bombay.

From 1860 until 1926 all Indian stamps were typographed by De La Rue and Co. Thence onwards Nasik has undertaken the task.

The Swiss Mobile Post Office

a portrait, The Royal Children, also from a portrait, and then Prince Baudouin and again Queen Astrid with Prince Baudouin as a baby. Now two new stamps are issued in connection with the International Music Congress held

in Brussels, which give us a portrait of Queen Elizabeth.

The values are 70 plus 5 centimes and one franc 75 centimes plus 25 centimes, and the colours are grey-blue and blue respectively. Then, in miniature sheet form, there were two higher denominations 1fr.50c., plus 2fr.50c. and 2fr.45c. plus 3fr.55c., these being claret and violet respectively. But these two were only issued in small quantities, so in time they should have a chance of becoming valuable. Of course, this depends more upon the public taste than anything else.

Perhaps one of the most curious stamp issues for a long time comes to us from France. This time she has printed two stamps showing the statue "Victory of Samothrace," and the two values are 30 centimes and 55 centimes.

The peculiar point is that these are only sold when stuck down upon postcards, and the price of these cards is 70 centimes. So for 85 centime worth of stamps, you have to pay 2frs. 25 centimes. It does not matter if you do not want the postcards, you just have to take them, and, of course, pay for them, too!

Oh, by the way, these are only to be purchased at the various museums. At the start they could only be obtained at the Louvre, but now we believe they can be got elsewhere, or at least at other big museums, too. Why? Is the



Portraits from Belgium

idea that there are in these museums far too many postcards which the public are not buying as the museum authorities think they ought? So they have hit on the idea of making the philatelist become a postcard collector!

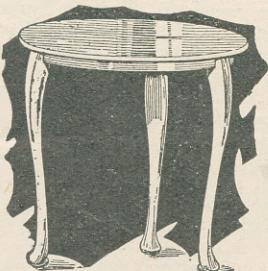
# It Pays to Make Things for the Home

Cheap, ready-made furniture—built to a price—can never give the service and satisfaction that you get from a thing you have made yourself from Hobbies materials. You save in every way when you make your own.



## TRAY PARCELS

Containing baseboard, moulding handles and transfer. In three sizes: 14½ by 11½ins., 2/3; 19 by 11½ins., 2/6; 20 by 15ins., 2/9. Postage 6d. on each.

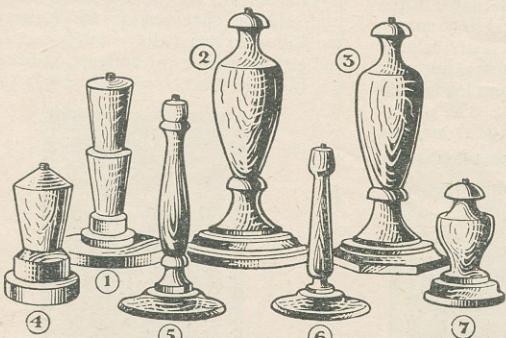


## COFFEE TABLE

If you saw this Table in a shop priced at a guinea you would think it good value. You can make it yourself for 9/- (post 1/-). It is 18ins high with 18ins. top. You simply glue and screw the parts together.

## ELECTRIC LAMP STANDARDS

You have often admired those pretty table lamps. Now you can make your own! Hobbies supply nicely turned standards drilled ready for the flex, from as low as 9d. Wire Frame for shade, shade paper and switch also supplied.



No. 1. Beech, 9ins. tall. 2/6  
No. 2. Beech, 10½ins. tall. 2/6  
No. 3. Oak (weighted base) 10½ins. tall. 3/3

No. 4. Beech, 6ins. tall. 2/6  
No. 5. Oak, 10ins. tall. 1/3  
No. 6. Beech, 8ins. tall. 9d.  
No. 7. Beech, 4½ins. tall. 1/9

Postage is extra to all prices

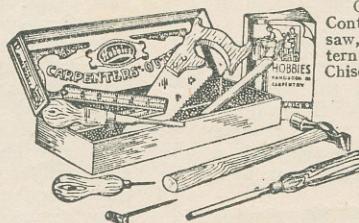
**Hobbies Ltd., Dereham and Branches**

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The name of Hobbies is a guarantee that they are good, and any carpenter would be proud to use them. Cheap tools never do good work—here are some you can use for a lifetime—at prices to suit all purses, and every tool British made. Be sure of the best by insisting on Hobbies.

**Every Tool is British**

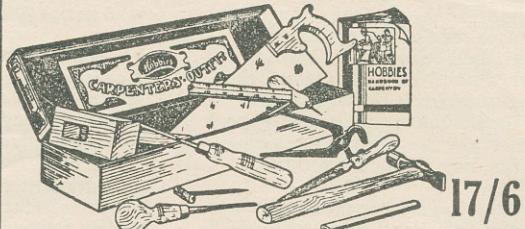
## RELIABLE TOOL SETS



OUTFIT No. 1  
Contains a 10in. Handsaw, a Warrington pattern Hammer, ½-in. Chisel, Screwdriver, 2ft. Folding Rule, Bradawl, Gimlet, a Carpenter's Pencil and a 64-page Handbook.

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**17/6**  
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Contains an 18in. Handsaw, a Mallet, smoothing Plane, a Warrington pattern Hammer, ½-in. Chisel, ½-in. Gouge, a Screwdriver, Pincers, a File, a Square, 2ft. Boxwood Folding Rule, Gimlet, Bradawl, Carpenter's Pencil and 64-page Handbook of things to make.



**30/-**  
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Ask for Hobbies at any ironmongers or stores. Hobbies own branches in London, Glasgow, Manchester, Birmingham, Sheffield, Leeds, Southampton, Hull. Direct by post from Hobbies Ltd., Dereham, Norfolk.

# HOBBIES

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Below are the addresses where Hobbies goods can be purchased. In addition, all leading stores and ironmongers stock or can obtain your requirements in fretwork and woodwork, designs, wood, turned legs, moulding, polish, etc.

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MANCHESTER	—	10 PICCADILLY.
BIRMINGHAM	—	9a HIGH STREET.
SHEFFIELD	—	4 ST. PAUL'S PARADE.
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SOUTHAMPTON	—	25 BERNARD STREET.
HULL	—	13 PROSPECT STREET.

### CANADA

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Aberdeen.—Jas. Mutch Ltd., 47 Broad Street; Blackburn.—Mr. H. Mercer, 68 Darwen Street; Bradford.—Messrs. T. Underwood & Co., 17 Lower Godwin Street; Brighton.—J. B. Bennett & Co., North Road; Cambridge.—Mr. H. S. Driver, 28 Hills Road; Canterbury.—Mr. T. D. Goodman, 33 Burgate Street and 16 St. George's Street; Cardiff.—John Hall (Tools) Ltd., 22 and 24 Morgan Arcade; Croydon.—L. H. Turtle, Ltd., 6 Crown Hill; Dover.—Mr. E. F. Bockham, Queen's Gardens; Dublin.—Mr. J. J. McQuillan, 36 Capel Street; Dundee.—Phins Ltd., 29 Nethergate; Folkestone.—Mr. W. A. Alsworth, 16 and 18 Guildhall Street; Hastings.—Mr. W. H. Moyley, 4 York Buildings; Leicester.—Mr. Frank Berry, 3 Loseby Lane; Liverpool.—Mr. C. Lucas, 17 Houghton Street; London.—Messrs. H. Osman, 166 Aldersgate Street, E.C.; Newport, Mon.—John Hall (Tools) Ltd., 81 High Street; Reading.—Mr. W. J. Sargent, 44 West Street; Swansea.—John Hall (Tools) Ltd., 8 Gower Street; York.—Messrs. J. H. Shouksmith & Sons, 132 Micklegate.

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## GENERAL NOTICES.

### EDITORIAL.

All Editorial matter should be sent to The Editor, Hobbies Weekly Dereham, Norfolk. If enclosed with orders or other matter for Hobbies Ltd., it should be written on a separate sheet of paper. Any matter requiring an answer must have a stamped addressed envelope enclosed.

### DESIGN SHEETS.

The presentation Design Sheet is given only with current copies of Hobbies Weekly, and not with back numbers. The designs, however, can be obtained separately, from Hobbies Ltd., price 4d., post free, or 10d. in the case of double size sheets.

### ADVERTISEMENTS.

All orders and letters respecting advertisements should be addressed either to the Advertisement Manager, Hobbies Weekly, Dereham Norfolk, or to 30/32, Ludgate Hill, London, E.C.4.

### INDEXES AND BINDING CASES.

An Index for any volume is obtainable for 4d. post free, and Binding Cases to take a complete set of 26 issues (making the volume) are supplied for 1/6, or sent post free for 1/8. The Cases are in red linen with gold blocked name on the front. The Azabook Binder, to hold 24 copies which you can fix in yourself is 3/3 (3/6 post free) including two dozen fastening staples.

### BACK COPIES.

Back copies are obtainable from the Editorial address given above or from the Publisher, price 2d. a copy, plus postage.

### CONTRIBUTIONS.

The Editor is always pleased to consider suitable articles for these pages, which, if accepted, will be paid for at the usual rates. While every effort will be made to return unsuitable contributions (if stamps for that purpose are sent with them), the Editor does not accept any responsibility for their loss.

### SUBSCRIPTION.

Hobbies will be forwarded by post to any part of the world at the following prepaid rates. Twelve months 13/-, six months 6/6, three months, 3/3. Registered for transmission by Canadian Magazine Post

## OVERSEAS POSTAGE RATES

For the sake of those readers living abroad who order their goods from England, we give below the postal charges on parcels from some of the principal countries. If the weight of the goods are known, the amount shown in the proper column should be added to the remittance when the goods are ordered. A special leaflet giving particulars of postages in other countries is obtainable on request to the Export Dept., Hobbies Ltd. Dereham, Norfolk, England.

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Egypt	..	..	2/-	2/-	3/6	4/6	7/3	..	1/9	1/9	3/-	4/3
France	..	..	1/6	2/3	2/3	2/9	4/3	..	1/9	1/9	3/3	5/-
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Gold Coast	..	2/6	2/6	3/6	4/9	7/-	..	2/6	2/6	3/6	4/9	7/-
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Malay States	..	..	2/-	2/-	3/3	4/6	7/9	..	2/-	2/-	3/9	4/9
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Irish Free State 2 lbs., 6d., 5lbs. 9d., 8lbs., 1/-, 11lbs. 1/3 \* Up to 20 lbs. only.

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1/3 per doz.

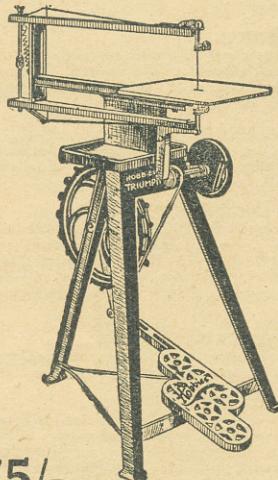
Post 2d.

Hobbies Ltd. Dereham

### REPLY COUPON

One of these small Coupons and a stamp for 1d. must be attached to your letter to the Editor, if you are enquiring about anything which demands an answer. Cut the Coupon out and put it in with your letter which should be addressed to The Editor, Hobbies Weekly, Dereham, Norfolk

# Get the Machine you have always wanted —Now!

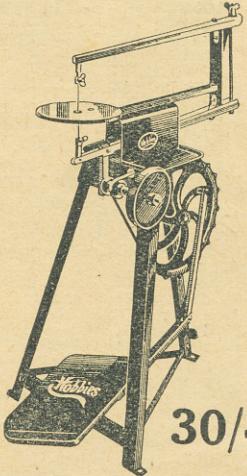


75/-

This is the "Triumph." It runs on ball-bearings and is a heavily-built machine to stand up to long periods of service. It runs as "smooth as silk" and has a clearance of 19ins. behind the saw.

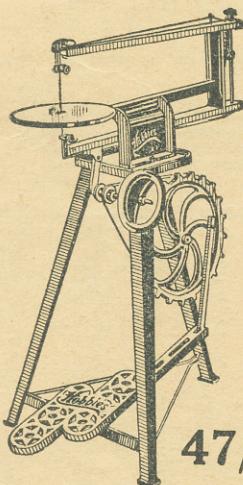
Do you know that a Hobbies Machine will cut wood  $\frac{3}{4}$ -in. or even 1in. thick and cut it either on the bevel or straight as required? It does all this easily and quickly. When treadling, you are hardly conscious of any effort—yet the saw is cutting its way through wood at about 800 strokes per minute.

Each machine is sent in a crate in complete working order ready to use. Carriage forward.

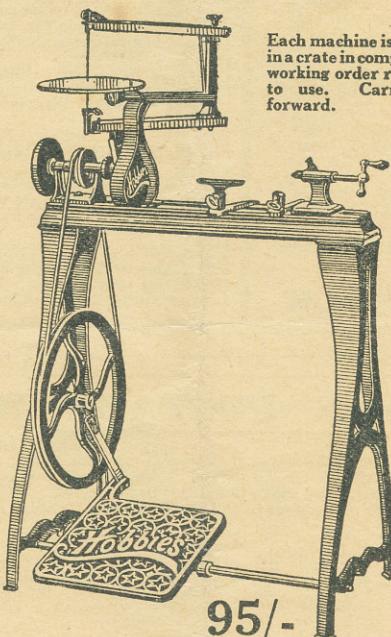


30/-

The "Gem," our lowest-priced machine. Made almost entirely of steel. It has a clearance of 18ins. behind the saw. The table does not tilt for bevel cutting.

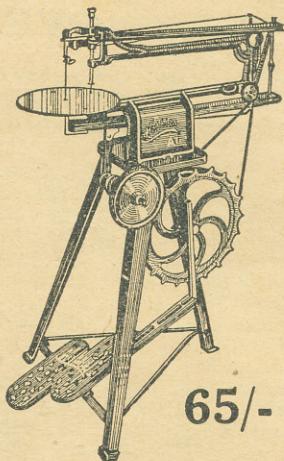


47/6



95/-

The "Companion" Lathe and Fretsaw is the ideal woodworker's machine. As can be seen it is a useful lathe 14ins. between centres with a fretsaw attachment mounted on top. This attachment can be taken off and put on again merely by unscrewing one nut. The large driving wheel has two grooves to give a change of speed.



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